

**LAS TRAMPAS REGIONAL WILDERNESS
DRAFT
LAND USE-DEVELOPMENT PLAN/
ENVIRONMENTAL IMPACT REPORT**

INCLUDING

**LITTLE HILLS REGIONAL RECREATION AREA
AND
LAS TRAMPAS TO MT. DIABLO REGIONAL TRAIL**

(West of Highway I-680)





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LAS TRAMPAS TO MT. DIABLO REGIONAL TRAIL
(West of Highway I-680)**

July 8, 1992

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LAS TRAMPAS
LAND USE-DEVELOPMENT PLAN/ENVIRONMENTAL IMPACT REPORT

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FOREWORD

The Land Use-Development Plan (LUDP) and its associated Natural Resource Management Plan (NRMP) provide a long term 20-year strategy for preserving Las Trampas Regional Wilderness, Little Hills Regional Recreation Area and the Las Trampas to Mt. Diablo Regional Trail, giving specific recreational development and resource management prescriptions for these park units. Plan recommendations have been prepared to enhance the wilderness quality of Las Trampas, protect park resources and provide for appropriate public recreation and access. Specific implementation measures are tailored to reduce adverse impacts on park resources and the quality of experience.

The Environmental Impact Report (EIR) further lists mitigation measures to reduce any potentially significant impacts. It is an ambitious plan, particularly in the number of specific implementation measures and is one that the District will try to implement within the given twenty year time span. However, recreational development is modest and low key when compared with levels of development in other regional parklands. Also, the plan includes steps for improving some existing facilities which are currently affecting the parklands. The plan is a living document and can be amended over time, as needed. However, projects which are contrary to the spirit and specifics of the plan will not be undertaken.

The LUDP does not provide estimates or include specific budget commitments. Funding for projects must be approved by the Board of Directors and funds must be allocated through the annual budget process. Additional staffing that may be needed as a result of the improvements must be allocated as a part of a District wide process. Larger projects will be designed through the capital improvement process while smaller projects may be undertaken by District staff. A Project Priority List is found at the end of section three.

The plan identifies a number of trails and staging areas located outside of District property and which will require negotiation and possible acquisition. While not within the current boundaries of the park, these are included because they relate to the efficient operation and use of Las Trampas in its present configuration.

Two new acquisitions totalling about 120 acres have been accomplished since the adoption of the Resource Analysis in 1991. These properties were examined for opportunities and issues. One is on the east side and one is located along Las Trampas ridge helping to connect the main portion of Corduroy Hills with Remington Loop. These properties add valuable habitat, improve trail connections and help to protect the open space viewshed, which is critical to the wilderness quality of Las Trampas.

This plan comes to the Board and the public at a time of budget and economic constraints for all levels of government and the nation as a whole. While implementation of some provisions of the plan may seem remote, the plan sets the stage by completing planning and legal requirements for projects with existing or expected funding, for smaller projects that require little in capital expenditures and for larger projects that may be implemented in phases or at a later date when economic conditions are more favorable.



I. SUMMARY

The following description and policies highlight portions of the LUDP (See Figure I-2). A more detailed discussion can be found in the appropriate sections of this document.

A. Plan Concept

Existing Facilities

The primary recreational facility at **Las Trampas Regional Wilderness** is the 40 mile trail system including narrow, one-track hiking and riding trails and wider, two-track trails for hiking, riding and service vehicles. Most of these trails were the ranch roads of former owners. Mountain bikes also use a few of these wider trails, but there are no loop trails available to bicycles. Two camps in Bollinger Canyon serve youth groups and equestrians and a dozen picnic tables are located at the main parking lot.

Little Hills Regional Recreation Area was purchased in 1976 to provide a recreational balance for the adjacent wilderness. It included the reservation picnic park and stables. The District has maintained and improved these facilities and use has increased over the years.

The eastern section of the **Las Trampas to Mt. Diablo Regional Trail** was opened in 1984 between Mt. Diablo and Highway I-680 for hikers and equestrians. Because the trail is not complete, the trail has relatively low use levels.

Plan Concept - Las Trampas

The wilderness quality of Las Trampas has been an important issue since the parkland was formed. The parkland lends itself to this classification because the very steep topography and large elevational changes provide a natural way to limit public use. Defining a "wilderness" is a significant part of this plan because of the many different ideas about appropriate levels of recreational and service development and resource management techniques.

The plan found that the adjacent publicly owned open space of the East Bay Municipal Utility District is important to the wilderness quality as it protects one edge of the park and increases the value of the plant and animal habitat. It also contributes toward providing the sense of isolation one hopes to find in a wilderness.

There are three basic concepts of the LUDP for Las Trampas. The first is protection and preservation of the wilderness. The District will strive to protect sensitive animals and plants and other resources that could be affected by public

use. Existing and proposed facilities are evaluated through a resource protection filter in this process. The District will take steps to protect resources such as restricting existing activities that detract from the wilderness quality; improving or removing existing facilities that degrade the wilderness; limiting, clustering and sensitively siting any new facilities; providing nature education; and proposing to EBMUD some form of joint management for a bio-regional effort of increased protection.

The second basic concept for Las Trampas is to increase access into the park in a way that will maintain wilderness values. Small staging areas will be added around the edge to provide limited access to some remote areas and the major parking facility will be enlarged to accommodate future use.

The third basic concept is to improve the trail system for recreational, service and fire fighting use. This will include: providing better loops; increasing access; removing trails from sensitive areas; restricting bicycles and closing trails if conditions warrant it.

Plan Concept - Little Hills

Balancing two goals of protecting resources and providing for public use are the key concept for Little Hills Regional Recreation Area. A creek setback zone will be established that will restrict future development within the riparian corridor.

The picnic park's existing use level will be maintained and future construction projects will enhance the environmental setting, rustic quality of the site, operations and public use.

Increased protection of the natural and visual resources at both Little Hills and Las Trampas will be achieved at the Las Trampas Stables by moving a portion of the facility further from Bollinger Creek and relocating most of an existing paddock while maintaining barn boarding and public trail rides.

Plan Concept - Las Trampas to Mt. Diablo Regional Trail

Completing the last section of the Las Trampas to Mt. Diablo Regional Trail is the basic concept for this part of the plan. The link will also complete a missing section within the larger District wide interconnecting trail system which links regional parklands and urban communities. The trail will also connect to Hap Magee Community Park, future Danville and county trails, and the Iron Horse Regional Trail.

Another basic concept for the trail is providing limited parking at the Las Trampas end of the trail which will serve both the trail and park.

FIGURE: III-8



B. Land Use-Development Plan/Environmental Impact Report

1. Land Use Zones

The Wilderness Unit of **Las Trampas** comprises the majority of the parkland including the significant natural features. The primary management objective is to allow natural processes and desirable ecological changes to take place, while protecting the park from adverse effects. This unit includes a number of Special Protection Units for rare, endangered, threatened species or those of special concern. These units are designated for plants, animals and facilities of the Eugene O'Neill National Historic Site, that are located within Las Trampas. A Special Management Unit is designated for the developed springs that serve Little Hills and a Field Research Unit is designated within Corduroy Hills.

The purpose of the Staging Unit is to cluster park development and restrict its location to the edge of the parkland. The Las Trampas Staging Unit is established in Bollinger Canyon and includes parking, non-reservable picnicking, interpretive center and service yard. It is adjacent to Little Hills which includes the picnic park and Las Trampas Stables.

Little Hills is designated as a Regional Recreation Area. Acreage that is not actively used as a recreation area is managed as a part of Las Trampas.

The new section of the **Las Trampas to Mt. Diablo Regional Trail** will complete the link between these two regional scale parklands. Most of the trail will be located within the public road right-of-way maintained by Contra Costa County or Danville. Regional parking is currently located at Mt. Diablo and is planned for Hap Magee Park. This plan identifies a future small parking area at the edge of Las Trampas, serving both the park and trail.

2. Resource Management

The diverse array of natural features of **Las Trampas and Little Hills** require a broad range of management techniques for their protection and preservation. Management is also necessary to protect users and reduce fire hazard. The primary planning and management objective in the Wilderness is to allow natural processes and desirable ecological changes to take place. In general, the District will manage with a conservation-oriented, light-handed approach. This includes most management programs dealing with the vegetation, wildlife, soils, creeks and springs and historic resources. Grazing is maintained as the primary management tool for promoting plant diversity and reducing fuel load within the grassland areas

of the park.

However, in cases where resources are threatened or damaged by past recreational activities or lack of proper management techniques, the District will take a more active role to remediate and restore natural conditions. The Las Trampas Stables pose the most serious threat to parkland resources with high pollution levels in the adjacent Bollinger Creek. The District will take steps outlined in the plan to reduce pollution while retaining a basic level of recreational service. Closing wet trails or the entire park during days of high fire danger and eliminating trails in sensitive riparian canyons are other examples of actions to be taken to protect park resources.

3. Facilities and Circulation

The primary recreational facility at **Las Trampas** is the one and two-track trail system. The LUDP recommends improving the trail system by: improving loop circulation with the addition of new trails and redesignation of several trails to connect the separated sections of Las Trampas. Other changes will be made to improve the fire fighting capabilities within the park and improve emergency access. Bicycles are to be restricted from the park. Topography limits loop circulation of two track trails, thus cycling is permitted only on a few short trail sections. There is little potential for loop trail circulation which could provide a more fulfilling experience. Also, the Master Plan restricts mechanized equipment from Wilderness parks.

An Interpretive Center is planned within the Staging Unit of Las Trampas in Bollinger Canyon. Parking and non-reservable picnicking will be improved and modestly expanded to meet future needs.

The nearby picnic park of **Little Hills Regional Recreation Area** will be improved for recreational use, aesthetics and operations and maintenance. However, the maximum capacity will not be increased and the size of the facilities will not substantially increase.

The Las Trampas Stables is an intensively used facility located on a small area along Bollinger Canyon Road. Pollution generated from the stables is a significant adverse impact on the adjacent creek. The plan maintains both boarding and public trail rides at the stables but eliminates "pasture" boarding and relocates trail ride and guide horses further from the creek.

4. Environmental Impact Report

The Environmental Impact Report (EIR) reviews the Land Use-Development proposals for recreational facilities and parking in Bollinger Canyon; access points and staging area around the edge of the park; the changes to the

trail system and changes to the Stables to improve its environmental effect on the creek. The EIR also reviews the Natural Resources Management Plan which outlines vegetation management practices, erosion control practices and the protection of animal and plant habitats. The Land Use-Development Plan and the Natural Resources Management Plan are designed to avoid and/or mitigate adverse environmental impacts. The Plan's environmental impacts are minimal. The Plan provides alternatives for dealing with pollution caused by the stables if the preferred alternative approach is not successful in dealing with present impacts. The EIR outlines a variety of mitigation measures which have been incorporated into the project.



II. BACKGROUND

A. DESCRIPTION AND LOCATION

The Land Use-Development Plan/EIR for Las Trampas Regional Wilderness, Little Hills Regional Recreation Area and the western end of the Las Trampas to Mt. Diablo Regional Trail is intended to be the guiding land use document for these three parklands for the next twenty years. Adjacent to each other and with interrelated facilities, each parkland has a specific recreational purpose. Together these three parklands represent the diverse array of facilities, services and resources that characterize the East Bay Regional Park District.

Las Trampas Regional Wilderness is a large open space park with outstanding topography and natural resources where hiking and horseback riding are the major recreational activities. Little Hills Recreation Area, located in a shady draw of Rocky Ridge at the edge of Las Trampas, includes a small, intensely used picnic ground and an equestrian stable for boarding and public trail rides. The Las Trampas to Mt. Diablo Regional Trail will provide a continuous route through Alamo and Danville for hikers and equestrians that, when complete, will connect two great parks, Mt. Diablo State Park and Las Trampas Regional Wilderness as well as the Iron Horse Regional Trail and the future Hap Magee Park in Danville and Alamo.

Las Trampas Regional Wilderness

Las Trampas, with its approximately 3,578 acres, is the seventh largest of the District's 47 parkland units. Classified as a regional wilderness in the District's Master Plan, Las Trampas is a park of dramatic topography and diverse habitats. The geographical center of the park is Bollinger Canyon which is bordered on the east by Las Trampas Ridge and on the west by Rocky Ridge. The two parallel ridges rise as much as 900 feet above the park staging area in Bollinger Canyon. These steep and rugged hills with their many side ridges and valleys create a complex of habitats and spaces. The sides and tops of many ridges are studded with windswept and sculptured sandstone outcroppings. Underground aquifers on the ridges provide spring water for Las Trampas, Little Hills, the National Park Service and local ranchers.

The geologic history of Las Trampas is revealed by the soil, rocks and fossils uncovered in road cuts and landslides which display uplift and folding of marine formations. Small fossils and sedimentary layers found along the ridgetops show that this area was at the bottom of the Pacific Ocean until 20 million years ago. A few large fossils found in the vicinity indicate that 10 million years ago a three-toed horse and a four-tusked elephant (*Gomphotherium*) roamed the area, with camel, pronghorn and giant tortoise.

The hills and valley of Las Trampas are covered with native vegetation types which include grassland, fragrant chamise, oak woodland forests and riparian

communities along the draws and creeks. The seasonal changes of the grassland (and to a lesser extent, deciduous vegetation) have a dramatic effect on the visual quality of the park. In the winter and spring the rains turn the grasslands a brilliant green sprinkled with orange poppies, purple lupine, yellow goldfields and blue-eyed grass. By late spring the grasses have dried to a golden brown contrasting with the dark greens of the shrubs and trees. This mosaic of plant communities is home to many species of wildlife; deer, coyote, raccoon, frogs, newts, buzzing insects and a multitude of birds that, with the winds, produce the sounds of solitude and peace.

Las Trampas is adjacent to East Bay Municipal Utility District's Upper San Leandro Creek Watershed which stretches westward to meet Anthony Chabot and Redwood Regional Parks along the East Bay Hills. This vast open space area is under public ownership and encompasses almost 20,000 acres. The eastern edge of Las Trampas borders the urban fringe of the San Ramon Valley. Developed recreational facilities within Las Trampas are few, but its 40 mile system of narrow trails and dirt roads allow park visitors to enjoy the panoramic views from the ridges and visit some of the quiet corners of the park. The park offers a haven for hikers and horseback riders that can be enjoyed year round. Other recreational facilities are limited to a few picnic tables and 2 youth group camps. Parking is limited to one lot at the end of Bollinger Canyon Road in unincorporated Contra Costa County. There is no parking provided on the eastern side adjacent to the populated areas of the San Ramon Valley. (Refer to Figure II-3).

Little Hills Regional Recreation Area

Little Hills is a recreational facility of regional significance which includes a reservation picnic park and boarding and trail ride stables. The picnic park is one of the few facilities in the East Bay which can serve groups up to 1,400 persons at a time. Its shaded picnic area with softball field, pool and activity area is a self contained unit, which is surrounded by the quiet slopes of Las Trampas Wilderness.

Despite the name, the Las Trampas Stables are located within Little Hills Regional Recreation Area, south of the picnic park along Bollinger Canyon Road. The facility accommodates approximately 130 horses. It is in an ideal location for access to miles of horseback riding trails in Las Trampas as well as to the East Bay Municipal Utility District's Upper San Leandro Reservoir Watershed (permit required). Little Hills is officially 100 acres in size, although the area operated as the picnic park and stables is closer to 40 acres with the remaining 60 acres managed as a part of Las Trampas. Discussions in this report about Little Hills Regional Recreation Area will refer to the 40 acres of actively used area. The remainder will be treated as if it were a part of Las Trampas.

Las Trampas to Mt. Diablo Regional Trail

The Las Trampas to Mt. Diablo Regional Trail is a major link of the East Bay Regional Park District's regional trail system throughout most of Alameda and Contra Costa Counties. The trail system connects the regional parklands and trails with each other and with the adjacent population areas. When completed, the Las Trampas to Mt. Diablo Regional Trail will serve hikers and equestrians of the two-county park district, although local residents of Alamo and Danville are expected to be frequent users of the trail on a daily basis for relaxation and exercise. The 4.3 mile eastern portion of the regional trail between Mt. Diablo and Highway I-680 opened in 1984. The route of the western mile of the trail from Highway I-680 to Las Trampas through the Trail Corridor Study Area in Danville or Alamo is the subject of this plan.

The Trail Corridor Study Area is a well-established residential area with streets of varying widths and capacities. Two drainages from Las Trampas Ridge cross the corridor. Because of the extensive development, trail options are limited. Parking including staging for horse trailers that can serve both Las Trampas and the regional trail is also discussed. The major regional parking for Las Trampas will remain on Bollinger Canyon Road.

B. RELATIONSHIP TO OTHER AGENCIES

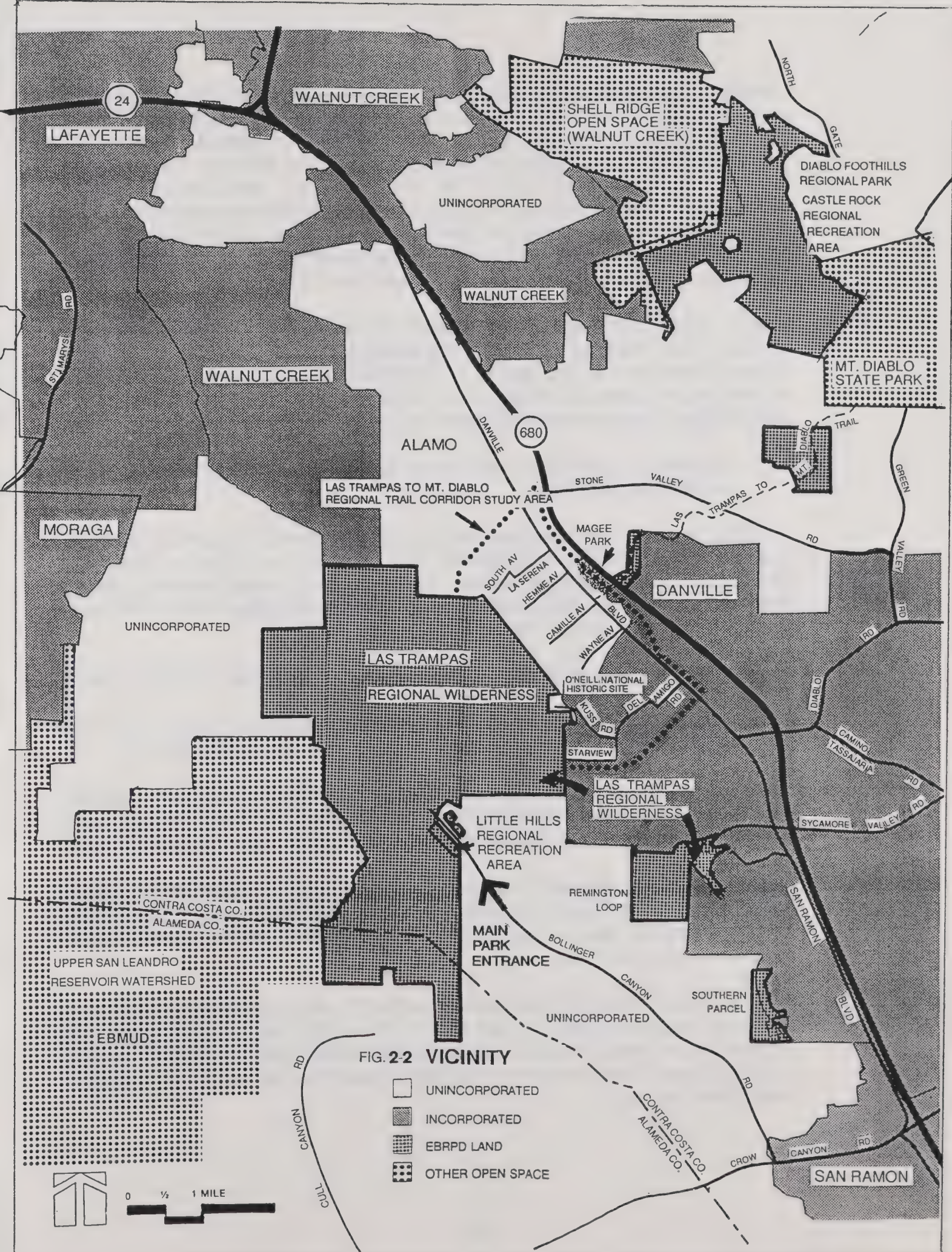
1. Other Agency Plans and Studies

The 1991 Las Trampas Resource Analysis identifies numerous documents by other agencies that reference Las Trampas Park. These plans support the concept of a regional parkland system and focus on access to the regional wilderness. Agencies which have relevant documents include: the National Park Service, the State of California, Alameda and Contra Costa Counties, San Ramon, Danville, Alamo, Walnut Creek, Lafayette, Moraga and East Bay Municipal Utilities District. For a complete discussion of these documents refer to the section of the 1991 Las Trampas Resource Analysis titled, "Planning Reports and Land Use Designation".

2. Zoning

Alameda County: The area surrounding the southern extremity of Las Trampas in Alameda County is all zoned "A", Agricultural which has a 100-acre minimum parcel size.

Contra Costa County: Almost all of the land surrounding Las Trampas that is within Contra Costa County is zoned A-80, agricultural with 80 acre minimums. Peter's Ranch, adjacent to the southern parcel, is designated P-1, Planned Unit Development.



Danville: Lands adjacent to Las Trampas which are in the Town of Danville include zones R-15, R-20, R-40, R-65, R-100, A-2, A-4 and P-1. In general, these zoning designations represent large lots with either residential or agricultural use.

San Ramon: The north and south-east corners of the Bollinger Canyon/Crow Canyon Rd. intersection are in the Crow Canyon Redevelopment Area, Conservation and Enhancement Program. Residential Estate, Agricultural and Rural Residential zoning extends up into Bollinger Canyon to the Town Limit Line. The Sphere of Influence and Agricultural/Resource Conservation zoning extend along either side of Bollinger Canyon Rd. to the park boundary.

Walnut Creek: The Rossmoor Retirement Community lies on the northernmost border of Las Trampas. The adjoining Rossmoor open space is zoned P-D, Planned Development. This zoning reflects the controlled, pre-planned nature of the area, where development and open space preservation are designated at the specific plan stage for the entire Rossmoor area.

3. Summary of Permits and Other Agency Agreements Required to Implement the LUDP

A number of public agencies have authority over the District for permits, licenses, and inspections required to develop and operate Las Trampas, Little Hills Recreation Area and the Regional Trail. The District must comply with all applicable laws, ordinances, rules and regulations set forth by these agencies and will work in cooperation with other agencies to implement the LUDP.

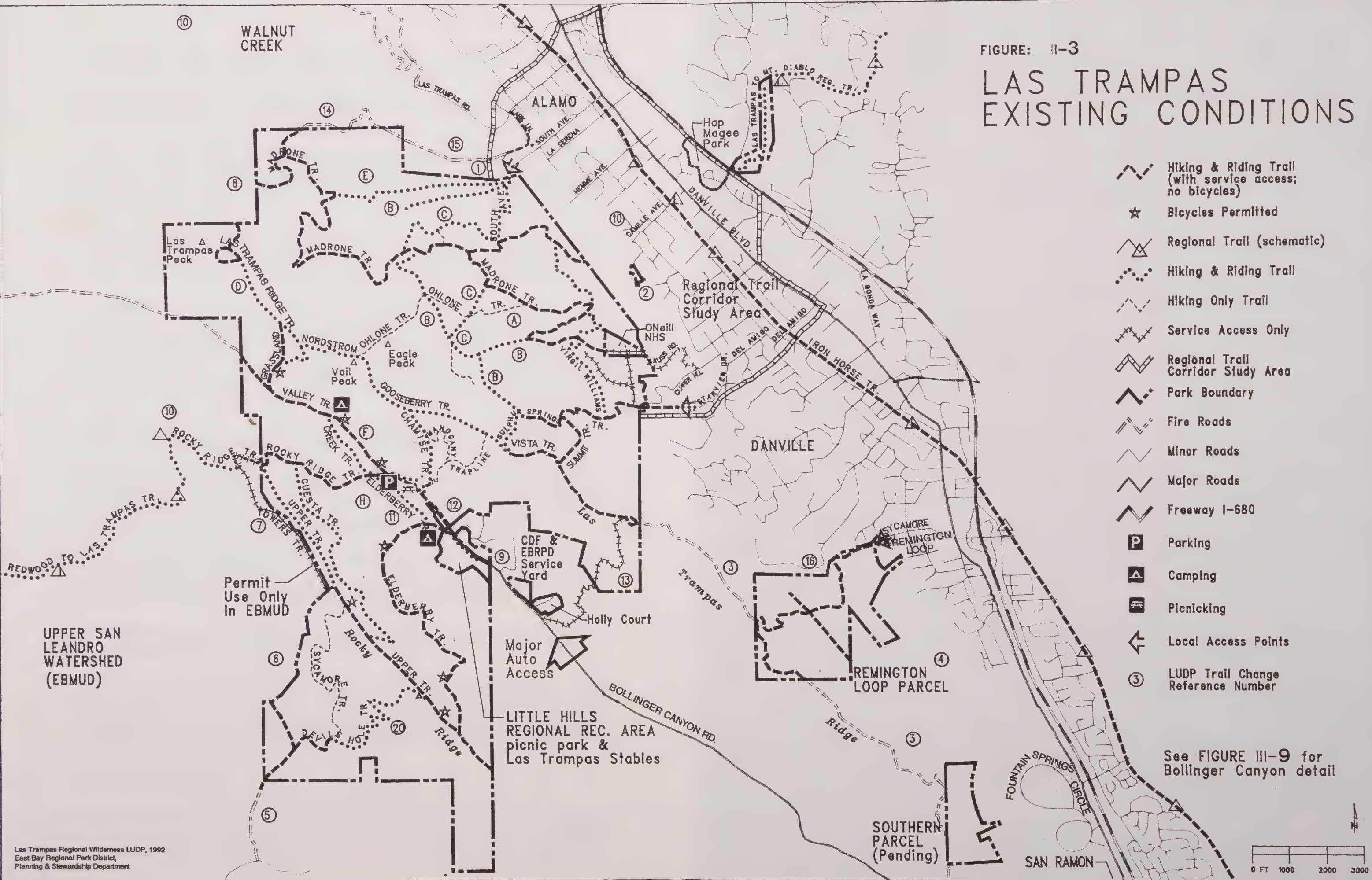
Alcohol Beverage Control Board: Little Hills has a liquor permit to sell alcohol.

Central Contra Costa Sanitary District: This agency has control over the leachline in Bollinger Canyon Rd. and any future municipal sewer service.

Danville: Danville would issue a permit for any improvements along city roads for the Regional Trail. The District will work with Danville and Alamo R7A to install regional trail parking at Hap Magee Park and to gain trail access into Las Trampas.

Contra Costa and Alameda Counties: Grading, building or improvements along county roads would require a permit from the appropriate county. Contra Costa Co. owns several trail easements with potential regional use and several scenic easements near the park.

Contra Costa County Environmental Health: The food concession operation at Little Hills requires a permit to sell food to the public. Any change of operator requires a new permit. Routine health inspections are conducted. EBRPD also has a permit through this department for the spring water supply and for the leach line septic tank system.



Contra Costa County Flood Control and Water Conservation District: Creek modification would require a permit from this agency.

Contra Costa County Planning Department: Relocation of the stables to Holly Court would require a land use permit.

Contra Costa County Public Works Department: Construction of structures (such as the nature center), plumbing, or electrical work requires a building permit. The construction of the parking lot will require a permit from this department due to the grading involved.

East Bay Municipal Utility District (EBMUD): EBMUD owns the adjacent Upper San Leandro Watershed. Agreements would be needed for ideas and proposals in the plan. Changes in water supply to State lands would involve this agency.

Fire Districts: Las Trampas, Little Hills and the future regional trail are in the jurisdiction of four different Fire Districts: Moraga Fire Protection District, San Ramon Valley Fire Protection District, Redwood County Fire Protection District (East Bay Regional Park District) and the California Department of Forestry. Together they operate under a county-wide mutual response agreement which includes emergency medical response (EMS).

National Park Service: The District will cooperate with the National Park Service to resolve issues concerning the Eugene O'Neill National Historic Site.

Police Departments: EBRPD Public Safety Dept. is the primary response agency. The Contra Costa Sheriff's Dept., San Ramon Police Dept., Danville Police Dept. and the California Highway Patrol also assist each other and the District in accordance with concurrent jurisdiction and mutual aid agreements.

San Francisco Bay Regional Water Quality Control Board (SFRWQCB): Water quality of parkland creeks falls under the jurisdiction of this Board and is a shared concern with Contra Costa Co. Health and State Fish and Game.

State of California: The existing service yard and Holly Ct. is owned by the State. Any lease agreements would go through this agency.

State of California, Department of Fish and Game: Any alteration of a stream or its banks requires a Stream Bed Alteration Agreement from the State Department. The Department's concerns include water quality, riparian vegetation and wildlife habitat. The parking lot construction close to creeks could require a permit from this agency.

C. ADJACENT LAND USE

Most of Las Trampas Regional Wilderness, Little Hills Recreation Area and the Regional Trail lie within Contra Costa County with a small portion of Rocky Ridge in Alameda County. The park lies west of Alamo and Danville and is approximately four miles south

of the State Route 24/Interstate-680 interchange in Walnut Creek. The Las Trampas to Mt. Diablo Regional Trail Corridor Study Area lies within the Town of Danville and in unincorporated Alamo. An expansive regional trail network will eventually connect Las Trampas to parks in all directions.

Las Trampas Regional Wilderness lies on the western edge of the San Ramon Valley, sharing a large part of its eastern border with the Towns of Danville and Alamo. Part of Las Trampas lies within the Danville Sphere of Influence while the San Ramon Sphere of Influence includes Bollinger Canyon, from ridgetop to ridgetop, north to the parkland boundary. The area along the eastern edge of the park is characterized by single-family residential development with many of the streets extending up to the park boundary. Some infill development could occur in the hillsides of this established area. Contra Costa County and Town of Danville General Plan designations include one and five units per acre.

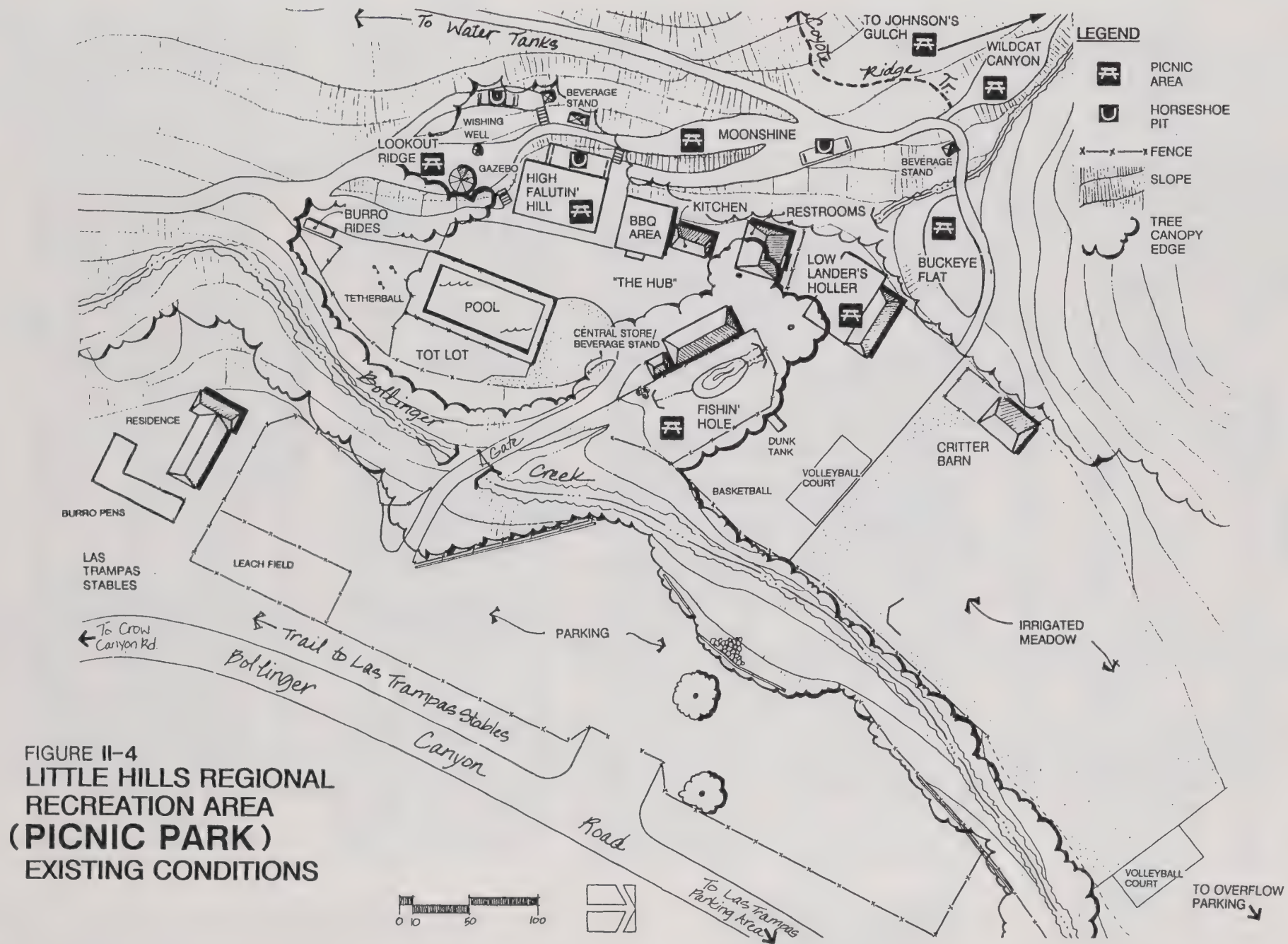
The south and south-eastern park edges are characterized by ranchette development where various agricultural uses occur. This area is outside of Contra Costa County's Urban Limit Line and therefore properties may not obtain General Plan Amendments that would redesignate them for an urban land use, however, property owners can apply for rezonings for smaller minimum agricultural parcel sizes.

East Bay Municipal Utility District's (EBMUD) 7,000 acre Upper San Leandro Creek Watershed lies to the west of the park, forming a bridge of open space and passive recreation between Las Trampas and Redwood and Chabot Regional Parks to the west. Portions of the watershed area adjacent to Las Trampas are designated in the EBMUD 1971 "Land Use Master Plan" as "Watershed Management Preserve - Ranching Area", "Educational Use Area-Environmental Education Area", "Natural Reserve", "Public Service Area", and "Special Use Area". These areas support watershed, water storage, cattle and horse grazing, and educational and low-intensity recreational uses such as hiking and horseback riding.

The ring of open space surrounding Walnut Creek's Rossmoor retirement community to the north forms a buffer between Las Trampas and Rossmoor development. This residential area will eventually hold approximately 7,000 units and is almost built out with a couple of neighborhoods left to be developed at the southern end of the Tice Valley. This development is visible from certain points within Las Trampas.

Although a majority of the San Ramon Valley in the Las Trampas area is urbanized with development moving into the remaining hillslopes, much of the land surrounding Las Trampas can expect to remain in watershed, agricultural and open space uses.

The East Bay Regional Park District monitors proposed development in the Las Trampas area for impacts to Las Trampas or the Regional Trail. The District works with cities, counties and developers to reduce visual encroachment, to preserve public trail access and to maintain the integrity of these facilities.



D. REGIONAL RECREATIONAL INVENTORY

The Regional Recreation Inventory reviews the population, location and distribution of actual and potential visitors to Las Trampas Regional Wilderness. Las Trampas' regional recreation role is analyzed and recreation facilities in the surrounding region are listed. Public input generated from meetings, questionnaires, surveys and letters is also summarized.

1. Recreational Needs in California

California's climate and diversity of natural environments provides many recreational opportunities for residents to enjoy. The State study, "The Recreation and Leisure Industry's Contribution to California's Economy", 1984, found that fifty-seven percent of Californians consider themselves outdoor persons and more than two-thirds consider outdoor recreation as important to their lifestyle. The 1984 study also found that Californians spent 12% of their income on recreational expenditures, exceeded only by housing and food expenditures.

It is a challenge for agencies to provide appropriate recreation for a changing population with varying interests and needs. Within the last few decades, the outdoor recreation participation rate has increased due to a greater urban population, an increase in leisure time and a health and environmentally conscious population. These factors, combined with an aging but active population, will cause the greatest growth rate in nonstrenuous outdoor activities such as picnicking, hiking and nature study.

In 1980, more than two-thirds of recreational activities in California took place within one hour's travel time of home ("Recreation Needs in California - Report to the Legislature on the Statewide Recreation Needs Analysis, by the State of California", 1982). This figure indicates a need for "no hassle" leisure activities that are easily accessible. An increase in minority populations and single-parent families has also increased demand for local facilities. Nature-oriented parks such as Las Trampas, when located close to urban areas, provide an escape from urban stresses and help maintain a healthy community environment.

2. 30-Minute Planning Zone and Population

The 1989 EBRPD Master Plan states that, "The District will plan and develop a parkland system that is designed specifically to meet the demands of District residents. Generally based on a thirty-minute travel time or on a park use profile that has been adopted from the most current District-wide user survey, a planning zone identifies principal and potential users of a parkland. The District will actively seek the opinions of these users, along with other interested District residents, before it designs the parkland. Consideration of certain recreational facilities may require a District-wide or larger planning zone." (Area of Influence Policy p.32).

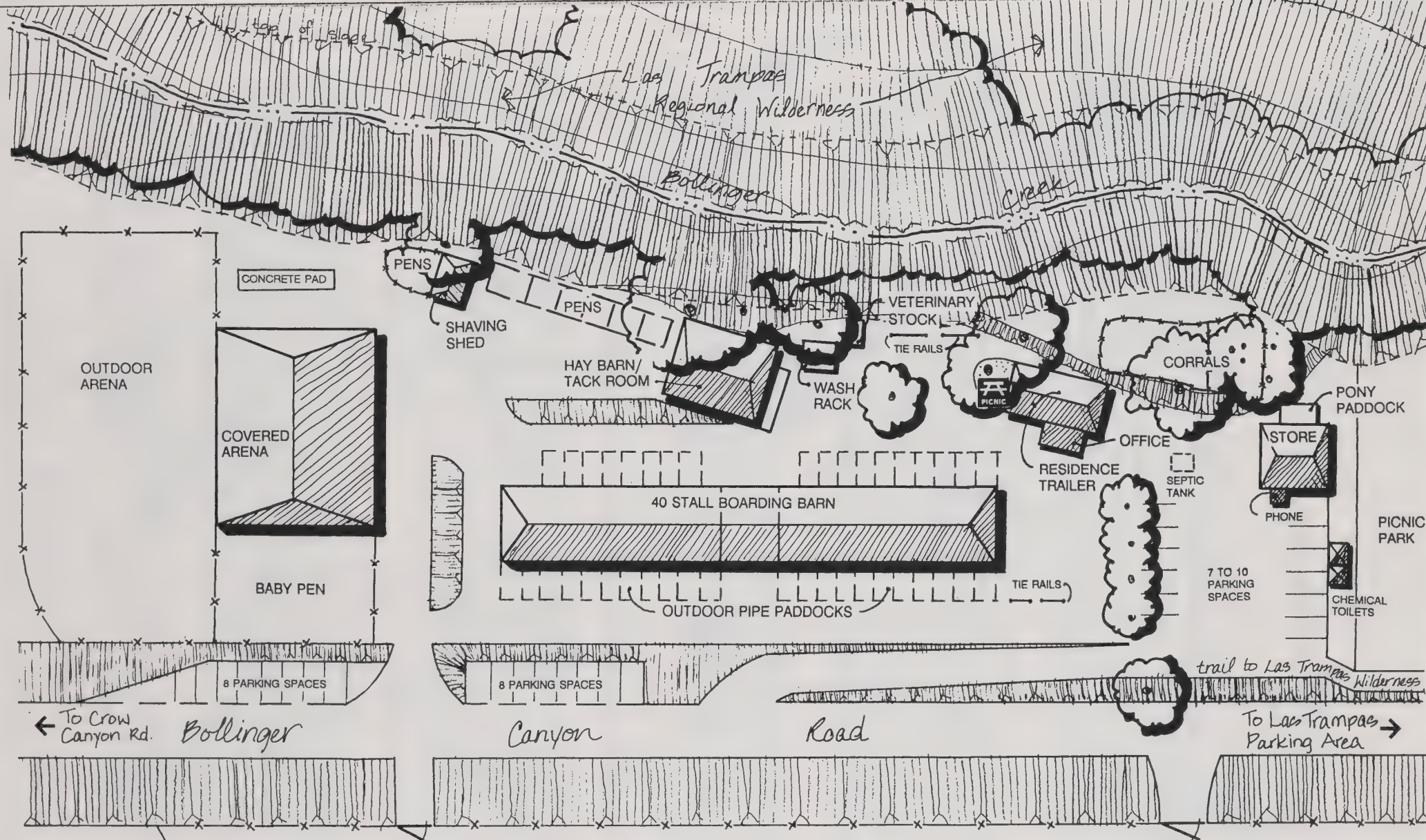


FIGURE II-5
LITTLE HILLS REGIONAL RECREATION AREA
LAS TRAMPAS STABLES
EXISTING CONDITIONS



NOT TO SCALE



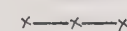
HAY BARN

(SEE FIGURE III-10 FOR COMPLETE LAYOUT)

LEGEND



PICNIC AREA



FENCE



SLOPE



TREE CANOPY EDGE

Figure III-2 shows the 30-minute planning zone based on use of the Bollinger Canyon Staging Area.

Table III-1 shows that Las Trampas's Bollinger Canyon Staging Area is within 30 minutes driving time of approximately 237,000 East Bay residents (ABAG's 1990 Census Summary, March, 1991). Las Trampas's planning zone population represents 16 and 8.5 percent of Contra Costa County's and Alameda County's populations respectively. This planning zone may be somewhat smaller than for some other parklands due to the relatively long distance of the staging area from the nearest freeway (12 miles from I-580 and 5 miles from I-680).

ABAG and Census figures indicate that from 1990-2005, the populations of Alameda and Contra Costa Counties will grow at rates of 14 percent and 20 percent respectively. Communities to the east and south of Las Trampas will continue to spread out over the valley and into the foothill regions. Danville, San Ramon, and the Alamo area are expected to increase their population by 31,000 people alone. Areas to the north and west are either built-out or are restricted by zoning and land use designations so that their populations are not expected to increase dramatically.

Demographic trends plus increased traffic congestion is expected to translate into increased demand for recreation that is affordable and close to home. This trend toward local recreation increases use of the District's parklands and translates into higher user densities, increased recreation demand and greater impacts on natural resources.

3. Recreation Supply District-Wide and in the 30-Minute Planning Zone

Las Trampas Regional Wilderness offers the following recreation activities: hiking, horseback riding, group camping and picnicking. Little Hills, a reservable group picnic facility, offers many recreational activities such as organized horseback rides, baseball, volleyball, horseshoe pits, a small animal farm, picnicking, swimming and fishing for children.

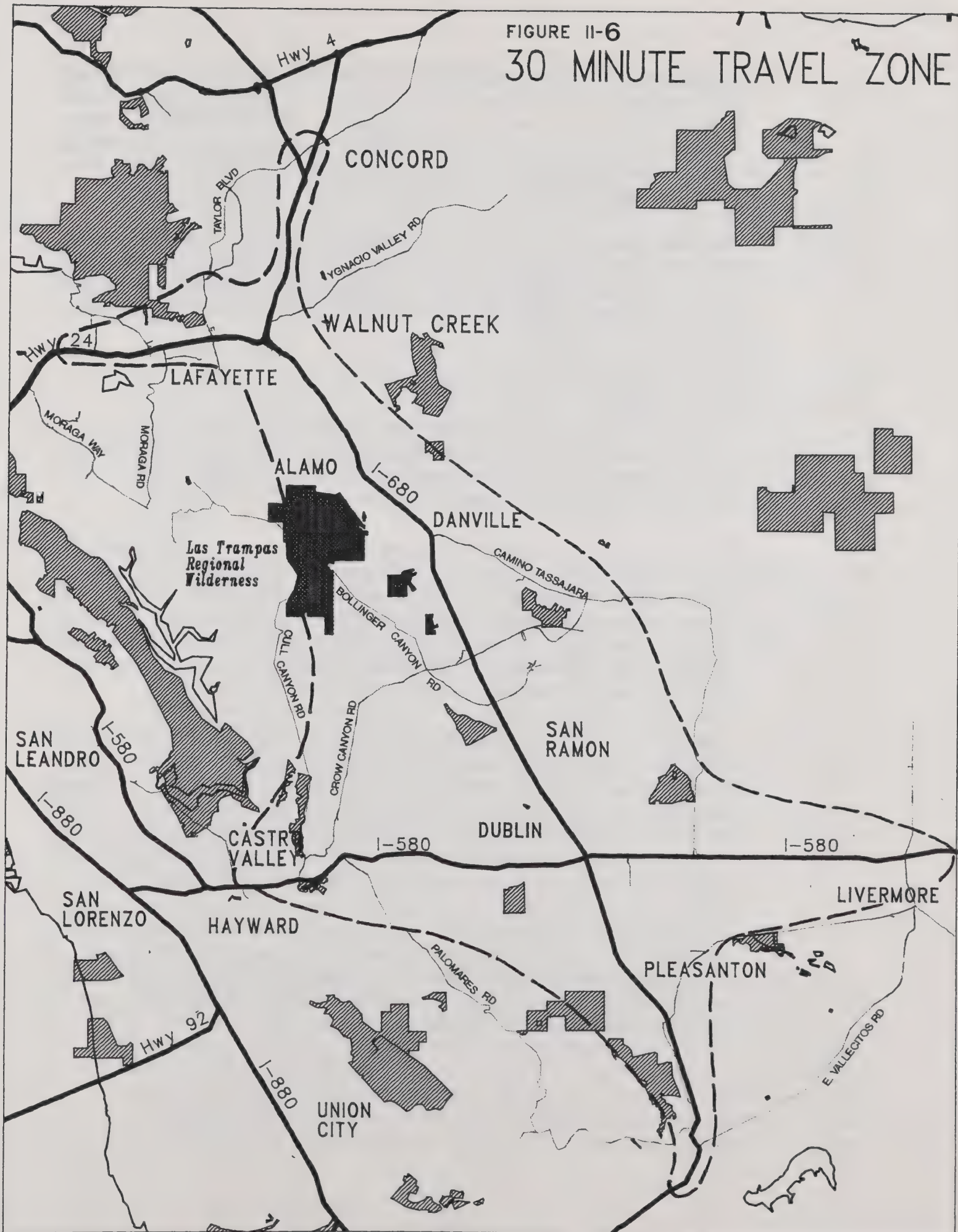
a. EBRPD Facilities

District parklands within or partially within the Las Trampas 30-minute planning zone include: Briones Regional Park, Diablo Foothills Regional Park (with Castle Rock Regional Recreation Area Picnic Park), Tassajara Creek Regional Park, Shadow Cliffs Regional Recreation Area, Pleasanton Ridge Regional Park, Don Castro Regional Recreation Area, Cull Canyon Regional Recreation Area and Bishop Ranch Regional Open Space.

Briones, Diablo Foothills and Pleasanton Ridge are similar to Las Trampas in that they offer visitors access to thousands of acres of natural area where recreation facilities are kept to a minimum. These parks provide

FIGURE II-6

30 MINUTE TRAVEL ZONE



opportunities for passive recreation such as hiking and picnicking as well as providing miles of scenic bicycle trails. The three recreation areas, Shadow Cliffs, Don Castro and Cull Canyon offer more intense, water-oriented experiences including boating, fishing, swimming and water-sliding. The smaller open spaces of Tassajara Creek and Bishop Ranch serve mainly as staging areas for the regional trail network.

Regional trails that are mostly completed and are within the Las Trampas 30-minute planning zone include: Lafayette/Moraga Trail, Briones/Mt. Diablo Trail, San Ramon Valley Iron Horse Trail, California Riding & Hiking Trail and the Contra Costa Canal Trail. The Las Trampas to Mt. Diablo Regional Trail is three-fourths complete.

b. Other Regional Recreation Facilities

The Las Trampas to Mt. Diablo Trail will someday directly connect Las Trampas to the 20,000 acre Mt. Diablo State Park on the eastern side of I-680. Users can enjoy this extensive natural area for hiking, riding, nature study, picnicking and camping.

EBMUD provides thousands of acres of reservoirs and watershed in or immediately adjacent to the 30-minute zone including Upper San Leandro watershed lands and the Lafayette Reservoir. The public is allowed to use the boat rentals, fishing and picnicking facilities although hiking and riding outside of recreation areas is by "permit only" on all EBMUD lands. A small portion of the San Francisco Water Department's San Antonio watershed land is also within the 30-minute planning zone.

Two amusement-oriented facilities, Great America and Marine World Africa USA, are the only other facilities besides the District's Castle Rock Park in Walnut Creek that offer a reservation picnic ground for groups as large as 1,400. They can accommodate numbers ranging from 1,500 to 3,000 people. Saratoga Springs in Saratoga can also accommodate 3,000 people while four facilities in the Bay Region can accommodate up to 1,000 people: Blackberry Farms in Cupertino, Hidden Valley Ranch in Fremont, Crow Canyon Park in San Ramon, and Coyote Ranch in San Jose. Two privately operated parks which are in the immediate Las Trampas area are Turtle Rock Ranch on Mt. Diablo and Wildwood Acres Resort in Lafayette which can accommodate up to 1,000 and 400 people respectively. Most of these facilities also offer the picnic, game and swimming activities that can be found at Las Trampas' Little Hills Recreation Area.

4. Recreation Need and Demand

Public Suggestion

Three meetings were held to receive suggestions on the future use and development of Las Trampas. At the first meeting on May 22, 1991, a joint meeting of the Danville Parks and Leisure Services Commission and Alamo R7A, Park District staff presented park resources and received input for the Resource Analysis and Land Use Development Plan (LUDP). This meeting provided an important inter-agency forum for discussing common issues and goals. The need for public access from the east side of the park was a concern.

A public meeting was held on June 6, 1991 in the Danville Town Hall to present park resources and take input for the Resource Analysis and LUDP. Verbal comments predominantly supported keeping Las Trampas in a natural state as a wilderness and protecting the natural resources. Some examples of comments include: protect the creeks from damage by cattle, provide water for wildlife from Rocky Ridge springs and expand documentation of special plants. Speakers also supported providing more public access from all sides of the park, especially from the east.

A second public meeting was held on February 11, 1992 at the Danville Town Hall to choose a preferred alternative for the Land-Use Development Plan. Different ideas and concerns were expressed about park maintenance and security, fire hazard, resource protection, interior trails, staging and access from the east side of the park. This meeting was heavily represented by equestrians who wanted more trails, the stable facility expanded and more trail maintenance. While many speakers supported the provision of more trails, or at a minimum, the retention of the overall number of trails, others felt that increasing trails would compromise the wilderness quality. The need for five-mile trail loops was expressed. Several people thought that there should be more than one eastern access to spread out trail use and impacts while others cautioned against the use of their street for access or staging. Most speakers supported bike access (although most letters which were received after the hearing supported restricting or prohibiting bike use to help preserve the wilderness).

User Surveys

Prior to and at the June 6, 1991 public meeting a questionnaire was distributed to park users and meeting participants for their comments. Responses were solicited to determine what activities and facilities the public feels would be appropriate in the regional wilderness, what route(s) are recommended for riding and hiking access next to Las Trampas, and how the park can be improved. A total of twenty two questionnaires were returned with comments. Hiking, horseback riding and picnicking were the top three recreational activities people felt were appropriate. "No development", (although not specific as to what type of development was

undesirable), was the most common restriction named by respondents. This was followed by restricting mountain bikes, buildings, motorized vehicles and playing fields which all had the same number of responses. Camille Ave. was the number one route favored for regional trail riding and hiking access to Las Trampas. There was a wide variety of suggestions as to how the park can be improved including more rangers, more toilets, and better trail maintenance.

On April 25th and 26th, 1992, survey consultants and EBRPD staff members conducted an on-site user survey at the Las Trampas parking lot for information concerning traffic and parking issues. The survey also contains information such as recreational activities and city of origin of visitors. The survey is included as Appendix D.

Letters

The Planning and Stewardship Department received many letters since the beginning of the Las Trampas planning process. The letters include comments on vegetation, hydrology, soils, wildlife, wilderness definition, access, circulation and transportation, staging, regional trail routes, trails within Las Trampas, fire protection, visual quality, park activities and facilities, future park acquisitions and operational problems and maintenance. Although too numerous to list here, all of the comments were considered by staff throughout the planning process.





III. LAND USE-DEVELOPMENT PLAN

A. PLAN CONCEPT

Existing Facilities and Use

The major acquisitions of Las Trampas Regional Wilderness took place between 1969 and 1974. The properties had a number of ranch roads on them which formed the basis of the trail system. The District constructed a few smaller hiking and riding trails and a small parking lot at the end of Bollinger Canyon Road. The first major users of the park were hikers and equestrians. Mountain biking has steadily increased over the past 10 years and now constitutes the third largest user group.

Little Hills Ranch including a reservation picnic ground and a stable facility was purchased in 1976 to provide a recreational balance for the adjacent wilderness park. The District has maintained and improved the existing facilities which has included the construction of some structures within the existing use area. Use of these facilities has increased over the years.

A plan for the Las Trampas to Mt. Diablo Regional Trail was adopted in 1980, but only included the portion of the trail between Mt. Diablo and Highway I-680, about two-thirds of the distance to Las Trampas. This section was opened for use in 1984, with the section to Mt. Diablo opening subsequently. The trail serves hikers and equestrians.

Las Trampas

The wilderness quality of Las Trampas has been an important issue with park users and park supporters in the various public meetings concerning acquisition and development issues since the early years of park use. The parkland lends itself to this classification because very steep topography and large elevational changes provide a natural way to limit use. The many interior valleys and ridges especially in Corduroy Hills, are places where one can find relative solitude and little evidence of human impact. The Resource Analysis found that defining a "wilderness" is a significant issue because there are many different ideas about appropriate levels of recreational and service development and about appropriate resource management techniques. Las Trampas is the first park in a Wilderness classification to go through the LUDP planning process, and in some ways may be precedent setting for Sunol and Ohlone Regional Wilderness parks, the only other EBRPD parks with a wilderness classification.

These three parklands are adjacent to large tracts of watershed property owned by EBMUD or San Francisco Water Co. The adjacent openspace areas provide EBRPD parks with an edge protected from future development and increase the value of the plant and animal habitat. They also contribute toward providing the sense of isolation one hopes to find in a wilderness.

Another significant issue delineated in the Resource Analysis was the need for additional access into Las Trampas. Currently the only parking facility for the parkland is in Bollinger Canyon. The only regional trail access is from the Redwood to Las Trampas Regional Trail through the adjacent Upper San Leandro Watershed. There is no access on the northern and southern boundaries of the park and only walk in access on the eastern side, the San Ramon Valley where a major urban area is located.

The plan attempts to find the appropriate balance between: preserving the special resources of the park, preserving the wilderness qualities of the park; providing additional access into the park; and improving the trail system for users as well as emergency and maintenance use.

The first basic concept for Las Trampas is that the District will protect and preserve park resources and wilderness quality as its highest priority in park planning, development and management. The District will particularly strive to protect sensitive animals and plants that could be affected by public use. Thus existing and proposed facilities will be evaluated through a resource protection filter in this process.

Several changes to preserve resources and wilderness quality are described in the LUDP. In general, to achieve these goals the District will:

- Make a stronger commitment for monitoring resource damage, preserving resources and having greater sensitivity for the effects of maintenance and use on the park.

- Ask the public to comply with somewhat more restrictive use to protect sensitive species, etc. For example, restricting use in sensitive resource areas during nesting periods and closing park trails that are wet.

- Restrict existing activities, such as bicycle use, that detract from the wilderness quality.

- Cluster the majority of recreational facilities, parking and service development in Bollinger Canyon, at the edge of the parkland and at the lower elevations of the park away from major residential areas.

- Site facilities out of particular areas where public use would be damaging, such as habitat areas, drainages and geologic, paleontologic or rare plant areas.

- Enhance, improve or remove existing facilities and uses that degrade the wilderness quality or park resources. Changes in the Las Trampas Stables (that are technically within Little Hills Recreation Area) are being made because of the impacts that the stables have on the wilderness as well as on the recreation area.

Limit new recreational and service development to essentials.

Design facilities to complement and blend with the natural surroundings. Facilities will be screened to protect important natural views. Designs and materials will be chosen specifically to blend in with their surroundings.

Use the natural steepness to help protect the remoteness of the park by keeping major staging in Bollinger Canyon and providing only limited staging on the east side with no other recreational facilities.

Provide a small Interpretive Center to educate park visitors about park resources and the need to protect them.

Propose that EBMUD and EBRPD consider some form of joint management to deal with natural resources in a bio-regional manner to better protect wildlife and other resources.

The second basic concept for Las Trampas is to increase access into the park in a way that will maintain the wilderness value.

Small staging areas will be developed around the wilderness to provide limited access to areas that are difficult to reach from Bollinger Canyon and to decrease the impact of traffic and use in any one area. Potential parking areas are identified in the parking section of the report.

Parking at the major access point in Bollinger Canyon will be expanded to accommodate future use.

The District will continue to implement the regional trails plan that link Las Trampas to other parklands and to the surrounding urban areas.

The third basic concept for Las Trampas is that the District will improve the interior trail system for recreational and service use. Improvements to aid firefighting and improve response time will be a part of this effort.

The District will make the following basic changes to improve the trail system:

Provide better loop trails with construction or maintenance of trail links and redesignation of trails and acquisitions.

Increase access points into park.

Raise the priority of trails projects in the capital budget process.

Use volunteers to help maintain trails.

Little Hills

The concept of the plan for Little Hills Recreation Area balances two goals protecting the parkland resources and providing for public use. More specifically, the plan is guided by the following objectives:

Maintaining existing use levels of the picnic park while planning future maintenance and construction to enhance the environment and rustic quality of the site, operations, and public use.

Increase protection of the natural and visual resources at both Little Hills and Las Trampas by reducing the number of horses maintained in the facility; moving some facilities further from Bollinger Creek; while maintaining barn boarding and public trail rides with some changes in program.

Las Trampas to Mt Diablo Regional trail

The basic concept for the Las Trampas to Mt. Diablo Regional Trail is to complete the trail link between Las Trampas and Mt. Diablo. However, besides linking these two great parks, the trail will also complete a missing link within the larger District wide interconnecting trail system which links regional parklands and urban communities. This section of the uncompleted trail will also connect to Hap Magee Community Park, future Danville and county trails, and to the Iron Horse Regional Trail operated by EBRPD.

Another basic concept for the regional trail is to provide limited parking at the Las Trampas end of the trail. This will serve both trail use and will also provide access into the eastern side of Las Trampas.

The details of the concepts outlined here are found in the following Land Use-Development Plan including the Natural Resource Management Plan. Mitigation measures are found in the Environmental Impact Report (EIR).

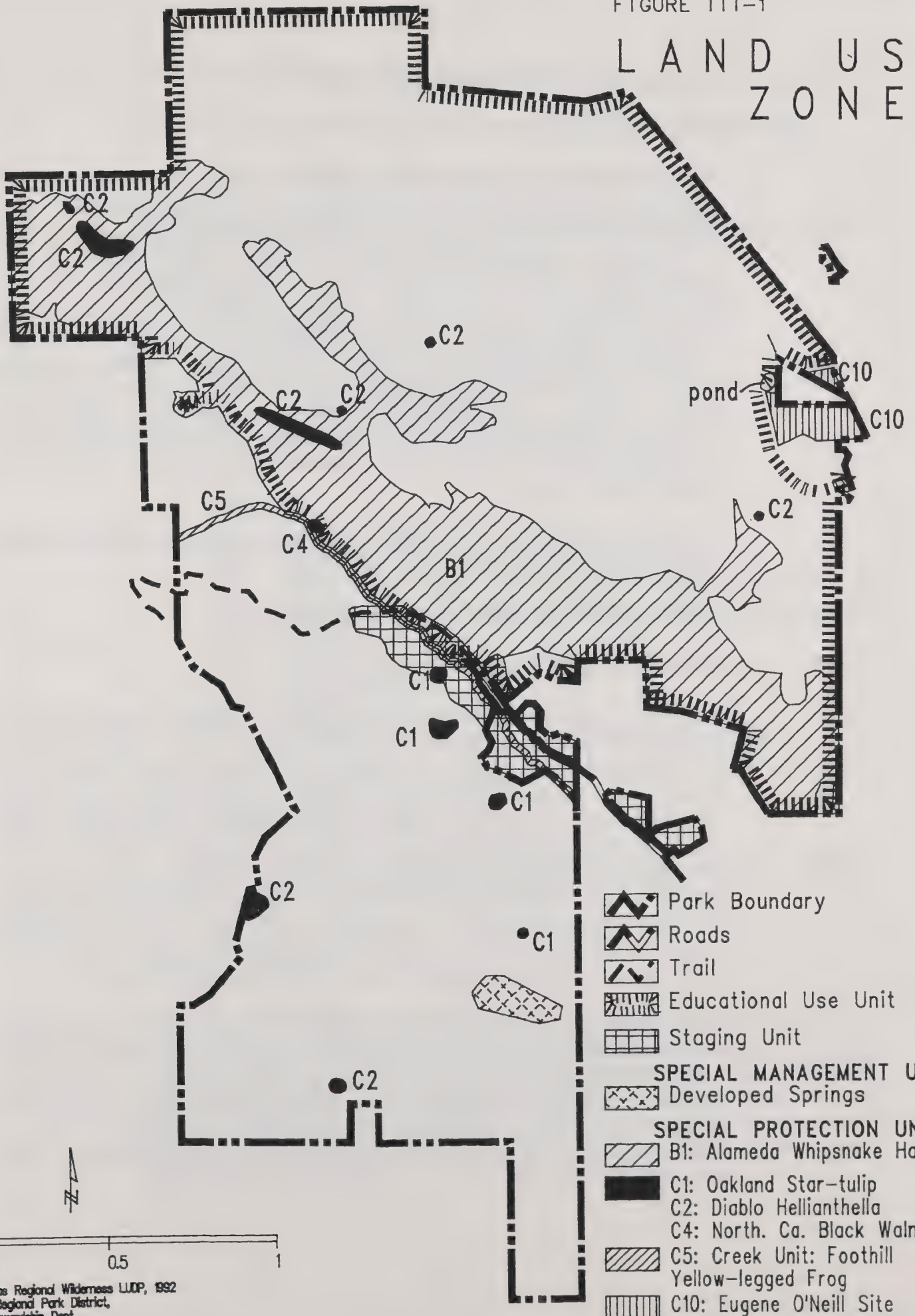
B. LAND USE ZONES

1. Las Trampas Regional Wilderness

As prescribed in the 1989 East Bay Regional Park District Master Plan, a regional wilderness is organized into land units based upon the inherent natural character of the park and the proposed uses. The two basic categories of land units are the Wilderness Unit and the Staging Unit. Within the Wilderness Unit other types of land units are sometimes designated. These are the Special Protection, Field Research Units and Special Management Units. The following principles were used to zone Las Trampas: 1) Protect significant resources including rare and endangered plants and animals and maintain the open space character of the park with 98% designated as Wilderness unit and 2% designated as Recreational Unit;

FIGURE III-1

LAND USE ZONES



2) Provide appropriate recreational opportunities.

a. Wilderness Unit

The Wilderness Unit comprises the majority of the parkland including the significant natural features in a cohesive area. It is an area with many different habitats and has the size to isolate visitors from the urban scene. The primary management objective is to allow natural processes and desirable ecological changes to take place, while protecting the unit from adverse effects. Only compatible activities are allowed. These include: hiking, horseback riding and camping. Development is limited to horseback riding, hiking, and service trails, hike-in and equestrian camps, boundary fencing, adequate signs, minimal sanitary facilities, potable water and security residence. The Master Plan prohibits "mechanized equipment" other than equipment and vehicles for emergency and maintenance. Las Trampas meets the Master Plan's minimum standards to qualify as a Regional Wilderness.

The three other types of land units sometimes designated in the Wilderness Unit are described below.

b. Special Protection Units and Notable Resources

Special Protection Units

There is a wide variety of resources at Las Trampas, ranging from the typical to the unique to the rare and endangered. These varied resources may require different levels of protection and types of management. Most resources are protected through standard park maintenance methods. The rare, sensitive or unique resources may require extra monitoring or more extensive measures, however, to ensure their protection. The District has the legal responsibility to protect plants and animals listed as rare, endangered or threatened by the State and Federal Government. Special Protection status is reserved for these listed species and for any additional resources for which there is special concern that has been expressed by public agencies (including EBRPD) or by credible organizations.

These resources are designated as "Special Protection Units" in the Natural Resources Management Plan which also includes Implementation Measures for their protection. The Special Protection Units are shown on Figure III-1. There are no species on the federal list for rare, endangered or threatened status in Las Trampas. Mapping is not included if the location or range is too wide spread, or if public knowledge might jeopardize the security of the resource.

The Special Protection Units for Las Trampas are:

Species on the state list for rare, endangered, or threatened status:

B1 Alameda Whipsnake (chaparral) habitat.

Resources that are of special concern to governmental agencies, including EBRPD, or credible organizations:

Plants

- C1 Oakland star-tulip (CNPS list 4)
- C2 Diablo helianthella (CNPS list 1B)
- C3 Valley oak (CNPS list 4)
- C4 Northern California black walnut

Animals

- C5 Foothill yellow-legged frog
- C6 Sharp-shinned and Cooper's hawk habitat (too large to designate for SPU, nest in riparian corridors and wooded ravines)
- C7 Prairie falcon (nest on cliffs of Rocky Ridge and forage in open grassland)
- C8 Golden eagle
- C9 American Badger (grasslands below Rocky Ridge)

National Historic Site

- C10 Eugene O'Neill Historic Site resources (particularly Blemie's grave and historic orchard)

Notable Resources

There are many other resources at Las Trampas that are special or unique to the park, the District or to a larger geographic area. These specially identified resources are to ensure that park staff and the public are aware of their significance. They are designated as "Notable Resources" and they will be maintained and monitored according to specific management prescriptions developed by the Operations and Stewardship Departments. Mapping of resources will also be undertaken by the District.

The following resources are designated as Notable Resources:

Plants

Refer to "Unusual and Significant Plants of Alameda and Contra Costa Counties" by the California Native Plant Society 1992.

Animals or Animal Habitat

Habitat for native species, especially for raptors and mammals such as gray fox, coyote, mountain lion, bobcat and ringtail.

Riparian habitat

Ladybird beetle hibernation areas

Great Blue Heron Rookery (Camille Lane)

Historic or Cultural Resources or Sites

Alianthus grove on Madrone Trail

Trelut Homestead

Kurt Mueller Homestead

Reynolds Ranch and Richard Mueller former residence (Life Estate)

Old ranch complex below Las Trampas Peak

Ailanthus trees at Remington Loop

Geological or Paleontological Features

Hogbacks with wind caves on Rocky Ridge

Sandstone rock outcrops along ridges

Vertebrate fossils (scattered, isolated mammal fossils)

Invertebrate fossils (mollusk shells)

Bollinger fault (springs, seeps, rock layering, etc.)

Hydrologic Resources

Bollinger and Cull Creeks

Springs and seeps of Rocky and Las Trampas Ridges

c. Special Management Units

These are areas that do not qualify as Special Protection Units but have special management requirements beyond regular maintenance responsibilities.

A Special Management unit is designated for the springs on Rocky Ridge which have been developed for the Little Hills water system. Refer to the Hydrology section for policy and implementation measures.

d. Field Research Units

Field Research Units are areas in which research studies are encouraged by the faculty or advanced students of universities, colleges and other research organizations within the District. A Field Research Unit (formerly called Educational Use Unit) was designated in 1986 in a District-wide effort by the Educational Use Advisory Committee. The unit encompasses Corduroy Hills including the chaparral near Valley Trail. It excludes areas for staging in Bollinger Canyon and the flat terrace adjacent to the O'Neill National Historic Site (See Figure III-1).

The site was selected for its rugged topography and variety of vegetation types as well as rock outcrops. Also, this area is located midway in gradient, within the District, from western to eastern edges (or from wettest to driest) but is isolated from either extreme. It has good road and trail access. Research projects may be excluded from Special Protection Units or may have additional management controls there.

Rocky Ridge was not selected as a Field Research Unit by the Committee because of adjacent users.

e. Staging Units at Las Trampas

The purpose of the staging unit within a Regional Wilderness is to cluster park development and restrict its location to the edge of the parkland in order to minimize the effects of public use. The Master Plan lists appropriate facilities in a staging unit as: parking, sanitary facilities, security residence, service yard, outdoor education or interpretive facilities, camping facilities and picnic areas. These should be harmonious with the natural surroundings and, if possible, adequately screened from the wilderness. More than one staging unit is possible, if wilderness goals are not compromised.

The Staging Unit for Las Trampas is established in Bollinger Canyon and includes parking, non-reservable picnic sites, an interpretive center and service yard. It totals 46 acres, which is less than 2% of Las Trampas Regional Wilderness. Additional future staging areas at the edge of the park will occupy less than 2 acres (in total) and will not increase the %.

The Staging Unit is adjacent to Little Hills Regional Recreational Area which includes the picnic park and the Las Trampas Stables. Thus, all of the more intensive uses are clustered along Bollinger Canyon Road.

2. Little Hills Regional Recreation Area

a. Recreation Unit

Description

This parkland has been designated and operated since its purchase in 1976 as a Regional Recreation Area. It was acquired to provide recreational balance for the adjacent Wilderness. It meets the Master Plan criteria of being capable of withstanding intensive public use and of having proven recreational resources.

Little Hills picnic park provides reserved group reservation picnicking facilities . It serves up to 1400 persons at a time in a self contained unit. The Las Trampas Stables, officially part of Little Hills, has accommodated a maximum of approximately 131 horses with its boarding barn, pasture boarding and public trail rides.

3. Las Trampas to Mt. Diablo Regional Trail

a. Regional Trail Unit

The Las Trampas to Mt. Diablo Regional Trail is one section of a interconnecting regional trail system throughout the park District. The trail meets the Master Plan criteria for the Regional Trail designation by providing a connection of two parklands of regional scale, Las Trampas and Mt. Diablo State Park. The trail will accommodate both hiking and horseback riding. The easterly portion of the trail has already been constructed and this project includes only the western portion. This new section of trail will be different from many regional trails as it will traverse an existing residential area rather than undeveloped, natural terrain. Most of this new section of trail will be located within the public right-of-way maintained by Contra Costa County or Danville.

b. Staging Unit

Existing parking for the easterly end of the trail is located at the Machedo staging area in Mt. Diablo. Regional parking is also planned at Hap Magee Park, a community park, to be operated by Contra Costa County and Danville. The park is located between Hwy. I-680 and Danville Blvd.

A small staging or parking area at the western end of the new section of the Las Trampas to Mt. Diablo Regional trail will be located at the edge of Las Trampas, serving both the park and trail. The parking section of the report shows potential areas for the preferred and alternative locations. The major parking for Las Trampas will continue to be located in Bollinger Canyon.

C. NATURAL RESOURCE MANAGEMENT PLAN

Las Trampas Regional Wilderness and Little Hills Regional Recreation Area have a diverse array of natural features which are intrinsically valuable and important recreational resources. These resources are in a state of constant change and require a broad range of management techniques for their protection and preservation. Resource management of parklands also is necessary to protect users and to reduce fire hazards.

The primary planning and management objective in a Regional Wilderness is to allow natural processes and desirable ecological changes to take place. Thus, in general, the District will manage with a conservation-oriented, light-handed approach. The District is dedicated to the ideal of preserving the typical California landscape exemplified by our parkland's significant features and species, and to reduce the imprint of human activities as much as possible. However, in cases where resources are threatened or damaged by past recreational activities or lack of proper management techniques, the District will take a more active role to remediate and restore natural conditions.

1. TOPOGRAPHY, GEOLOGY, SOILS AND PALEONTOLOGY

Topography and Geology

Background

The steep rugged topography is a distinct feature of Las Trampas. The landscape is dominated by two parallel ridges, Rocky and Las Trampas, which are separated by the long narrow Bollinger Canyon. The steep land undulates between sharp narrow ridges and box canyons. Relief is 1500 feet within the park boundaries. The highest peak occurs on Rocky Ridge, the lowest elevation borders the Corduroy Hills. Many slopes that exceed 60% make travel difficult for all users.

Geologic conditions and constraints have been described by Harlan Tait Assoc (1992). The bedrock geology of Las Trampas consists of Miocene sedimentary rocks and Pliocene nonmarine sedimentary rocks. Miocene units from oldest to youngest include: 1) silty to siliceous subplaty shale of the Rodeo and Tie Shales (Tmsh); 2) massive, argillaceous to sandy siltstone with minor sandstone (Tmsl); and 3) arcose greywacke, locally pebbly, fossiliferous sandstone with minor siltstone of the Briones, Cierbo, Neroly, and Hambre Sandstones (Tmss). Pliocene units include weakly consolidated pebble conglomerate, sandstone, siltstone and greenish-gray claystone on the Orinda and Mulholland Formations (Tps). Older alluvium and old landslide debris (Qoa) of Dibblee (1980a, 1980b), are shown on the northeast slope of Las Trampas Ridge, south of O'Neill National Historic Site.

These geologic units have subsequently folded, uplifted, and eroded to form the structural fabric of Las Trampas. Bedding, fold axes, and faults strike in a northwest trending anticline that exposes Tmsl in the core. The northeast limb of the anticline, which underlies Las Trampas Ridge, is faulted out by the northwest trending Las Trampas fault, a normal, east-side-down fault.

Remington Loop, which includes the crest and northeast slope of Las Trampas Ridge is dissected by the northwest trending Las Trampas Fault, which juxtaposes Tmsl and Tmss units on the northeast against Tmss units on the southwest.

The Southern Parcel, smallest of the Las Trampas park areas straddles Las Trampas Ridge. It is located southwest of the Las Trampas Fault and is underlain by moderately southwest dipping Tmss units.

All geologic features are of interpretive interest, as well as being major visual features. These include the large Briones/Cierbo hog backs with wind caves and the flat-faced tilted sandstone rocks. These outcroppings are located along Rocky and Las Trampas Ridges.

As a part of the 1992 Harlan Tait geotechnical study, essential two-track trail and facility locations were evaluated for feasibility and geologic hazards. Those changes shown on the LUDP Figure III-8 were found to be feasible and avoid areas with potential geologic problems.

Issues- Topographic and Geology

There are many areas with landslide and erosion hazards within Las Trampas.

Policy

Seismic, landslide and erosion hazards (as shown on Harlan Tait 1992 maps) will be avoided as construction sites for facilities.

Implementation Measures

- A geotechnical investigation (soil testing) will be performed to formulate geotechnical design criteria for structure foundations, drainage improvements and pavement, when necessary.
- Major structures will not be located across potentially active faults.

FIGURE:III-2

NATURAL RESOURCES MANAGEMENT PLAN

Protect and monitor sensitive
plant and animal species
(refer to Special Protection
Units, Figure III-1)

Monitor trails and
close when needed
during wet weather

-  Grassland
-  Bay-oak Woodland
-  Oak Woodland
-  Chaparral
-  Coastal Scrub
-  Grazing Unit Boundary
-  Streams

Include Las Trampas Peak
in Corduroy Hills
Grazing Unit

CORDUROY HILLS GRAZING UNIT

Preserve and
manage
Alameda
Whipsnake
habitat

Limit to early
season grazing
in high use
areas

Add ungrazed area
above parking lot
to grazing unit

Fence Bollinger Creek
on western side to
exclude livestock; provide
alternate water source

ROCKY RIDGE
GRAZING UNIT

Monitor remediation
of ground water
contamination

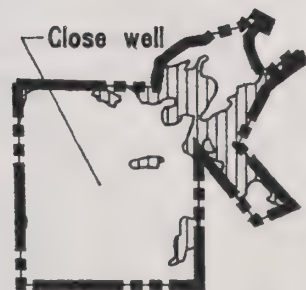
Manage open grassland to
discourage thistle intrusion

NO
GRAZING

Monitor and keep grasses
low along urban edges

Monitor water quality
impacts of stables
on creek (see
LUDP stables section)

Inspect, protect
and monitor springs
for drinking water



REMINGTON LOOP
GRAZING UNIT

Landslides and Surficial Deposits

Background

Numerous landslide features within the park have been mapped by Harlan Tait Assoc (1992). The surficial deposits include colluvial deposits on swales and on slopes, alluvial deposits along some of the larger drainages and landslides that are indicated as: 1) large, active to old (Quaternary), deep-seated slumps and earthflows; 2) moderate-sized, active and dormant, shallow to moderately deep debris slides and earthflows; and 3) small, generally active, shallow debris slides and earthflows.

Main Las Trampas Area - The distribution and type of landslides in the northwestern unit can be correlated to bedrock type. On the steep southwestern slopes of Rocky Ridge small to moderate-sized, active and dormant, shallow to moderately deep earthflows, debris slides and slumps are common. Shallow debris slide source areas are common, and many debris slides have left remnant runout tracks on the hillsides. Soil creep occurs on slopes underlain by colluvium. Resistant sandstone beds form linear, steep-faced outcrops which yield talus. Most drainages are eroding and gullied.

The northeast slopes of Rocky Ridge are almost entirely underlain by small to large, active and dormant, earthflows, slumps, debris slides and debris slide source area involving Tps units, which extend down to the valleys of Las Trampas and Bollinger Creeks. Many of these drainages are eroding and gullied.

The steep rugged slopes on either side of Las Trampas Ridge, underlain by Tmsh, Tmsl, and Tmss, are characterized by relatively thinner soils and fewer landslides than other portions of the park. Landslides in this area are predominantly small to moderately-sized, active and dormant, shallow to moderately deep debris slides and flows with long, relatively narrow tracks, and debris slide source areas. Small to moderate-sized, generally dormant and often deep-seated slumps and debris flows are present. Soil creep occurs on slopes underlain by colluvium and many drainages are eroding and gullied.

Except for the crest, the entire northeastern slope of Las Trampas Ridge, including and south of the O'Neill National Historic Site, is underlain by large, Quaternary deep-seated slumps that extend to the San Ramon Valley. The differences in topography and landforms across the relatively linear east flowing drainage north of the O'Neill National Historic Site suggest that the larger of the east-west trending faults may project farther east than mapped by Diblee (1980a), to the Calaveras fault, and may offset the Las Trampas fault.

Remington Loop - except for the crest of Las Trampas Ridge this area is almost entirely underlain by large, active and dormant, moderately deep to deep-seated earthflows and slumps of the Tmss and Tmsl, which extend down to the San Ramon Valley. Small active landsliding and soil creep occur on the steeper slopes of landslide headscarps. Most drainages are eroding and gullied.

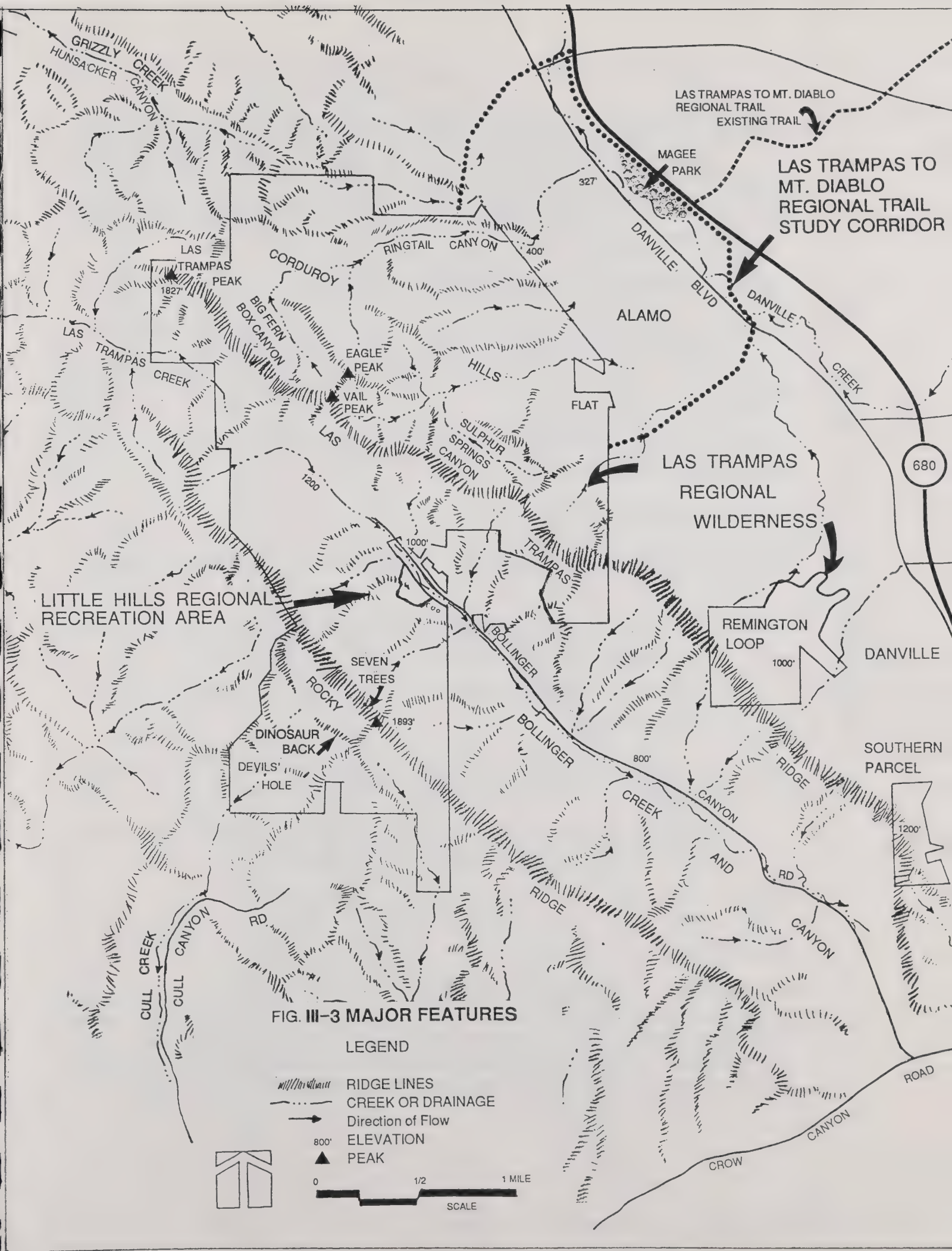


FIG. III-3 MAJOR FEATURES

LEGEND

- RIDGE LINES
 - CREEK OR DRAINAGE
 - Direction of Flow
 - ELEVATION
 - PEAK
- 800'
- 0 1/2 1 MILE
- SCALE

Southern Parcel - Essentially the entire northeastern slopes of Las Trampas Ridge in the southeastern park unit is dominated by large, old, deep-seated slumps in tms units that extend to the San Ramon valley. Minor active landsliding and soil creep occur on the larger, steeper headscarps. Active and dormant, moderate-sized earthflows, slumps, and debris slides occur along the eroding and gullied drainages in the southern portion of this unit.

Issues - Landslides and Surficial Deposits

There are several landslides and many resulting slumps, earthflows, etc. throughout the parkland which are unstable areas for park facilities.

Policy

Minimize the risk of potential landslide damage to park and adjacent, private structures and improvements.

Implementation Measures

- The District will monitor landslides of high hazard as identified on Harlan Tait 1992 maps.
- The District will identify potentially hazardous landslides that can cross common boundaries and will notify adjacent property owners.
- The District will minimize construction of new roads that traverse potentially hazardous slides.
- The District will work with adjacent jurisdictions to avoid residential development in areas of potentially hazardous landslides.
- The District will minimize construction of facilities on potentially active slides or within the pathway of potential landslide runout.

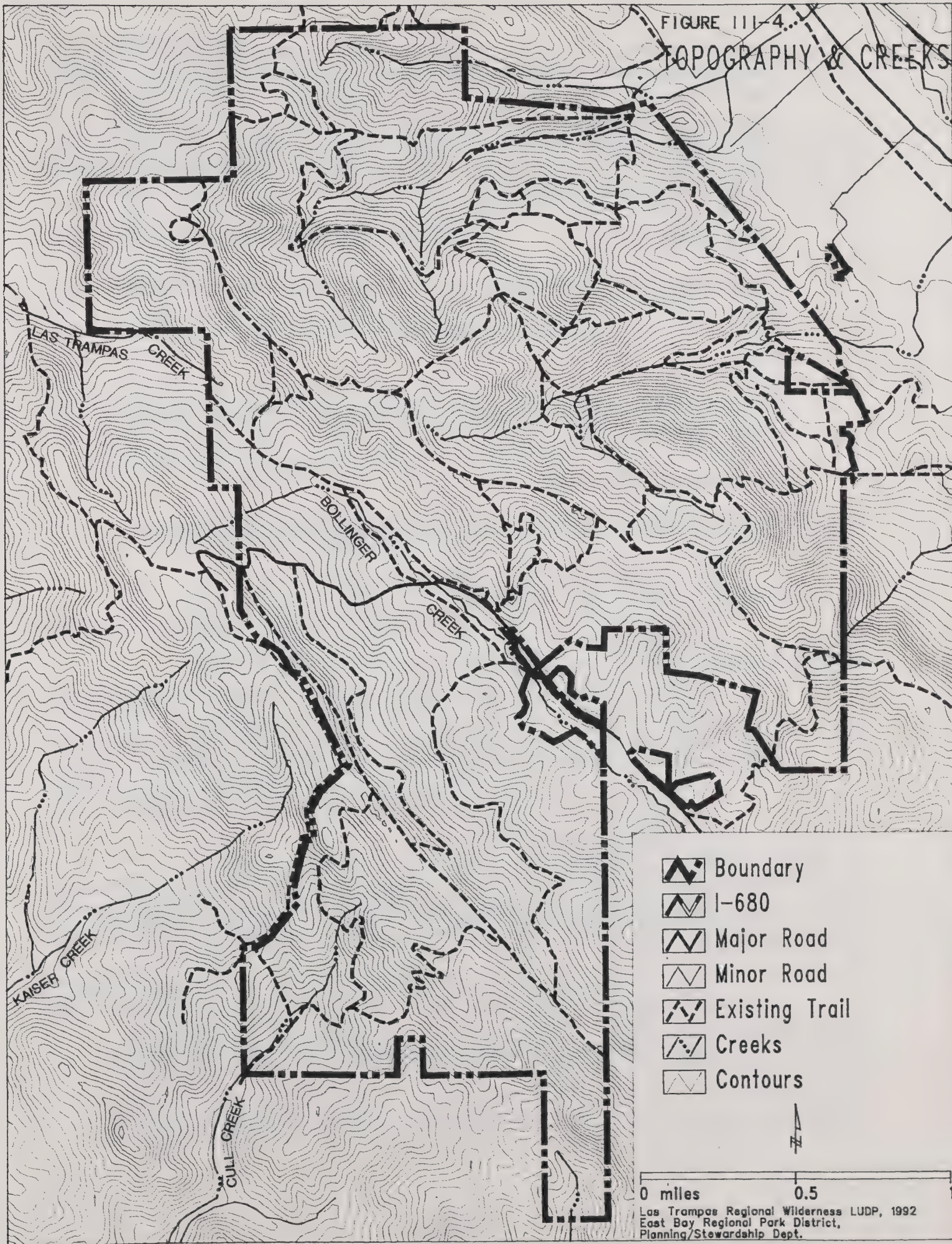
Soils

Background

Two major soil associations are represented in Las Trampas: the southwest faces of Rocky and Las Trampas Ridges have rocky outcrops with extremely shallow soils (xerorthents), while the valley bottoms and northeast slopes have more developed soils of the Los Osos-Millsholm-Los Gatos Association (EBRPD, 1991). The only significant agricultural use of the park soils has been grazing use.

FIGURE III-4.

TOPOGRAPHY & CREEKS



Many of the roads and trails in Las Trampas traverse steep and potentially unstable hillslopes. In general, the steep rugged topography and relatively unstable ground in the park preclude the construction of all-year, wide, low to moderate grade roads accessible to large, heavy vehicles, such as fire trucks. In recent times vehicles, bicycles and horses have accelerated the rates of erosion and sedimentation on the trails, especially those that cross seasonally wet areas that contain an abundance of clay.

Issues - Soils

The erosion hazard in the steep uplands is generally considered severe to very severe.

Policy

Limit soil erosion along roads, trails, drainage structures, and recreational and service facilities.

Implementation Measures

- Severely eroding gullies will be stabilized to the extent possible.
- Off-trail horseback riding will be discouraged.
- Erosion control practices will be used for construction projects or where soils are disturbed.
- The District will comply with the guidelines of its manual for construction and maintenance of roads and trails. Minimal road design and maintenance criteria will include: minimal blading, rolling the grade, outsloping the road surface on hillslopes, crossing drainages at grade, no diversion or collection of drainages from their natural path, culverting all drainages that cross trails, grading a crown on ridge top roads and minimizing the placement of fill on the outboard edges of roads.
- Trails that are to be abandoned will be stabilized so that future maintenance will not be required. Treads will be recontoured where necessary (at least at the intersections with remaining trails) and drainage structures removed.
- Erosion control devices (ie., drainage swales, water bars, energy dissipators etc.) will be placed along trails to control erosion at identified problem sites.
- Erosion and drainage control structures will be maintained regularly.

Paleontology

Background

While major finds of mammal fossils have been off park property, Las Trampas has a rich paleontological record. Remains from an extinct three-toed horse as well as from ancient camels, small squirrels, toads and badgers have been found in the park. Plant fossils as well as fossilized shells of marine origin, mainly clams, are visible in road cuts along both ridges.

Issues

Collection of fossils by the public has been a problem.

Policy

The District will protect and maintain paleontological resources.

Implementation Measures

- Grading, and trail alignment will be minimized to reduce visual affects and impacts upon fossil beds.
- Park operating staff will be trained in identification and protection of paleontological resources.
- The District will not map the location of sensitive paleontological resources in public documents to avoid potential vandalism.
- Interpretive panels and programs will be developed to educate the public about the significance of these resources and how to protect them.

2. HYDROLOGY AND WATER QUALITY

The major hydrologic features of Las Trampas Regional Wilderness include: a) intermittent creeks with associated riparian zones that have their headwater within the parkland, b) numerous springs, primarily situated along fault lines overlying aquifers along the east side of Rocky Ridge and Las Trampas Ridge, c) one permanent spring-fed stock watering pond adjacent to the Eugene O'Neill Historic Site.

The largest intermittent creeks in Las Trampas include Las Trampas Creek, Rutherford Creek and Bollinger Creek, all tributaries of the Walnut Creek watershed (Contra Costa County) and Cull Creek, a tributary of the San Leandro Creek watershed (Alameda County). San Ramon Creek lies within the Regional Trail Corridor Study Area. All projects relating to San Ramon Creek for the regional trail crossing are separate projects by Danville and Contra Costa County.

Bollinger Creek and Las Trampas Trails

Background

Bollinger Creek is the most prominent and accessible creek within Las Trampas. It forms a life-support system for wildlife by providing important habitat, food and water and by functioning as a wildlife corridor. The riparian vegetation along its banks helps regulate water temperature and prevents erosion. Bollinger Creek also serves as an interpretive resource for users, is a scenic feature of the park and provides shade for the facilities located along it. Bollinger Canyon Road allows access to park facilities located adjacent to the creek, including Las Trampas Stables, Little Hills Recreation Area and the main parking lot.

Groundwater resources near the head of Bollinger Canyon in the vicinity of TRACOR have been contaminated with low concentrations of solvents discharged into the Central Contra Costa Sanitary District leach line that parallels Bollinger Canyon Road. Efforts to remediate groundwater contamination are required by the local Regional Water Quality Control Board.

There are approximately 40 miles of unpaved one and two-track trails within Las Trampas.

Issues - Hydrology and Water Quality - Bollinger Creek

Inspection and water analyses of Bollinger Creek, conducted as a part of this project, found sediment, high coliform bacteria numbers and elevated nutrient releases from the manure laden runoff (ammonia and nitrate) of Las Trampas Stables (See Table IV-4). Also, nearby private developments and installation of sewage and storm water appurtenances in Bollinger Canyon have resulted in undesirable impacts to Bollinger Creek. Human activities, including improperly installed or damaged culverts, encroachment by development to the edge of the stream bank, coupled with unstable soils and continued downcutting of the stream channel has resulted in loss of land and bank failure.

Waste water and hazardous substances could enter Bollinger Creek from Little Hills picnic park. Potential leaks from on-site storage of chlorine and other chemicals could pose potential hazards.

Groundwater at Little Hills has been affected by solvents discharged into the leachline along Bollinger Canyon Road. (Contamination has not affected springs which provide drinking water to Little Hills. These springs are located hundreds of feet above the contamination site.)

Grading for future recreation and service facilities in Bollinger Canyon could potentially contribute to erosion of construction sites and siltation of Bollinger Creek.

Runoff from trails causes erosion and gulying resulting in soil loss along the trails and siltation in the creeks.

Vehicle and equestrian use of trails in wet conditions exacerbates erosion problems and makes trails difficult to use when they are dry and bumpy.

Policy

Protect water quality of groundwater and seasonal flows in Bollinger Creek from various actual and potential pollution sources.

Protect wilderness trails and stream riparian zones from preventable erosion and sedimentation.

Implementation Measures

- The District will continue to monitor coliform bacteria and nutrient levels in Bollinger Creek with periodic water samples.
- If recommended plan measures do not sufficiently reduce pollutants into Bollinger Creek, to comply with regulatory agencies, the District will take additional measures which could include converting to a season operation only.
- The District will require covering the outdoor portion of the stalls and frequent removal of manure from stalls and other areas of the Boarding Barn Area with emphasis during the rainy season. Manure storage will be covered until hauled off-site for disposal.
- Paddocks close to the creek will be removed.
- The outdoor riding arena shall not be used when wet.
- Direct discharge of waste water from the horse washing facility will cease. A bucket/wash basin operation with wash water piped to the septic system will be installed.
- Use of the Eastern Paddock will be discontinued except for the corral in the flat area at northern end and around the hay barn which will be used in dry weather only and cleaned before the rainy season.
- A new paddock for trail ride and guide horses will be constructed on a hillside within the 50 acre pasture. It will be located away from drainages and Bollinger Creek. It will be designed to reduce erosion potential during the rainy season. A manure cleanup and hauling program will be implemented here and small saddle-up corral located closer to the road and creek.

- The District may relocate trail ride and guide horses to Holly Court which is located further from Bollinger Creek than the Eastern Paddock. Paddock areas at Holly Court will not be drained into the street storm drain system.
- The District will continue to look for a suitable alternative site for the Las Trampas Stables which would have fewer environmental impacts.
- A 50 foot setback will be required for all facilities along Bollinger and Cull Creeks. Any new buildings and parking lots will be located at least 50 feet from the top of the creek bank. Existing buildings within the 50 feet that require renovation will be evaluated on a case-by-case basis. When possible, these buildings will be located further from the creek.
- The District will prevent uncontrolled flow of wastewater and hazardous substances into Bollinger Creek from the Little Hills picnic park swimming pool and restroom facilities. The District will require annual inspection of leachline and periodic septic tank clean-out. The District will restrict on-site storage of swimming pool chlorine and other chemical additives to small container sizes and minimize stored quantities in order to minimize possibilities of any major chemical spill.
- The District will monitor remediation of the Bollinger Canyon groundwater solvent contamination, shall track this process through periodic contact with the local Regional Water Quality Control Board and review corrective action plans for any activities that will affect parklands.
- The District will monitor pesticide use within Little Hills Recreation Area to assure compliance with District IPM Policies and Practices.
- The District will require erosion control provisions for all facility developments (e.g. interpretive center, staging areas) constructed within the park.
- Minimize the number of designated roads and recreation trails and re-vegetate eliminated trails where necessary. (Refer to the recreation section for trails plan.)
- Future building and parking development will be excluded from a riparian protection zone extending from the top of the bank of Bollinger and Cull Creek to 50 feet on either side. Buildings that need to be replaced will be individually evaluated. When feasible, buildings within 50 feet will be moved farther away.
- The District will provide drainage and erosion prevention devices along roads and service trails, where necessary, and repair gully erosion when necessary. Roads and trails will be regularly inspected.

- The District will inspect access trails after rainstorms and close trails, particularly one-track trails, will be closed to equestrian use while serious erosion or other impact problems are repaired. It will also inspect trails for erosion after the first major rainstorm of the season and regularly thereafter, through April each year. Any trails found to be severely eroded shall be closed by posting until conditions warrant re-opening.
- The District will close all unsurfaced vehicle roads, except for emergency, to all vehicular traffic during and after storm events until sufficiently dry to prevent rutting. All District employee must check with the park staff prior to use of any unsurfaced road during the rainy season between approximately October 15 - April 1.
- Any trail construction will require erosion control provisions.

Springs and Ponds

Background

Two of the best springs along Rocky Ridge have been developed into a water system that supplies the entire water needs of the Little Hills Recreation Area including Las Trampas Stables and two associated residences. Development includes improved spring boxes and a pipeline that delivers water to four tanks within the recreation area, chlorination of the water as it enters two of the tanks and distribution lines to facility faucets and other appurtenances.

The spring fed stock watering pond at the Eugene O'Neill Historic Site was formed by constructing an earthen dam across a narrow canyon to capture seasonal runoff.

A number of undeveloped springs are located throughout Las Trampas. Some have the potential of providing improved water sources for wildlife, if developed properly.

Issues - Hydrology and Water Quality - Springs and Ponds

Protection, monitoring and maintenance of the Little Hills water supply system is required to assure compliance with State drinking water standards.

The O'Neill pond requires periodic inspection and maintenance to remove accumulated debris that could potentially damage the dam, making it unstable.

Undeveloped springs are not safe for human drinking purposes.

Livestock congregate around springs and damage the springs, vegetation and soil.

Policy

The District will protect and manage the Rocky Ridge spring water supply to assure safe, wholesome and potable water for use at Little Hills Recreation Area.

Monitor Eugene O'Neill Pond (on park property) to assure no threat to dam stability results from accumulation of debris.

Preserve remaining undeveloped springs within the wilderness parkland for wildlife and stock watering.

Implementation Measures

- Springs #3 and 4 are designated as a Special Management Unit. The following measures will be taken to ensure public safety:

The District will inspect the entire system periodically to assure spring protection, manage runoff and protect water quality.

The District will inspect and service the chlorinator system at the water storage tanks to meet state and county drinking water standards.

The District will clean the 4 existing water storage tanks according to the District "Water Tank Cleaning Program."

The District will report self-monitoring results through submittal of reports to Contra Costa County Health officials to document compliance with State drinking water standards as required.

- Periodic inspection of the O'Neill pond especially during the rainy season will be discussed with the National Park Service along with other mutual issues.
- The District will protect springs by developing reliable flows and will improve stock watering by installation of troughs away from the spring source to prevent damage to springs and associated wetlands.
- Sufficient infrastructure, including fencing, spring development, exclosures, etc., shall be constructed to allow protection of sensitive areas, including creeks, riparian and wetlands from over utilization by cattle and horses.
- The District will notify visitors to carry their own drinking water during day-use activities.
- The District will post partially developed springs and any associated water troughs as non-potable water sources.

3. VEGETATION

Las Trampas Regional Wilderness supports several distinct plant communities. These include grassland, oak savanna, oak woodland, chaparral, coastal scrub, riparian, and other wetland communities. Grassland and oak woodland are the most common vegetation types. The northern section of the park is heavily wooded, whereas the southern two-thirds of the park and the Remington Loop area are primarily grassland. Extensive stands of scrub and chaparral shrublands occupy shallow, rocky soils along Las Trampas Ridge and in the southwestern corner of the park below Rocky Ridge.

The springs, seeps, ponds, riparian corridors, shrublands, and diversified oak woodlands that occur on the park are notable environments, in that they contain assemblages of plants that are of limited distribution in the Bay Area. These resources warrant special consideration and management.

Grassland and Woodland Understory Vegetation

Background

The introduction of exotic grasses and forbs by European settlers resulted in the virtual replacement of the original vegetation with a predominately alien flora. This vegetation is more competitive, productive, and prolific than the native plants with which it coexists. A diversity of native herbaceous plants in grassland and oak woodland understories can be maintained and enhanced by reducing residue accumulations from non-native grasses and forbs.

Issue

In the absence of a mechanism to control vegetation growth, most productive non-native grassland and some woodland understory sites accumulate large amounts of plant material, which acts as a mulch to diminish native herbaceous plant diversity and increase the risk of wildfire. Some sites may be subject to encroachment by weed and brush species, such as mustard, fennel, poison oak, coyote brush, and broom.

Policy

Vegetation in grasslands and oak savanna understories will be managed to control non-native herbaceous vegetation growth, achieve biodiversity, maintain a high representation of native plants, and reduce fire hazards. These areas will be managed consistent with the physiological and ecological needs and requirements of the vegetation.

Reseeding methods will maintain and enhance the existing natural vegetation. Seeding will be used primarily to rehabilitate disturbed ground and minimize erosion. Seeding to enhance plant production and to increase the cover of palatable and nutritious forage species for grazing animals is not a management objective.

Implementation Measures - Vegetation - Grasslands and Woodland Understory Vegetation

- Management will include the use of grazing, mechanical treatment, prescribed burning, integrated pest management, habitat protection and habitat restoration. These applications will be used in such a way as to maintain and enhance existing populations of native perennial grasses in areas where these species comprise a significant part of overall plant composition. Similar management strategies will be developed for heretofore undiscovered sites on the park.
- New land added to the park in the future will be surveyed for rare plant populations, significant concentrations of perennial grasses, or other features, which may require special management.
- Areas proposed for seeding will be appraised individually to determine the appropriate methods to be used. Native and naturalized annual and perennial species adapted to the conditions of the site will be employed. Species representative of the surrounding natural vegetation will be preferred. Severely disturbed sites with a potential for serious erosion will be stabilized as rapidly as possible by establishing an herbaceous plant cover. All seeding will take place in the proper season. Grazing and recreational use may be deferred to promote plant establishment.

Oak Woodlands

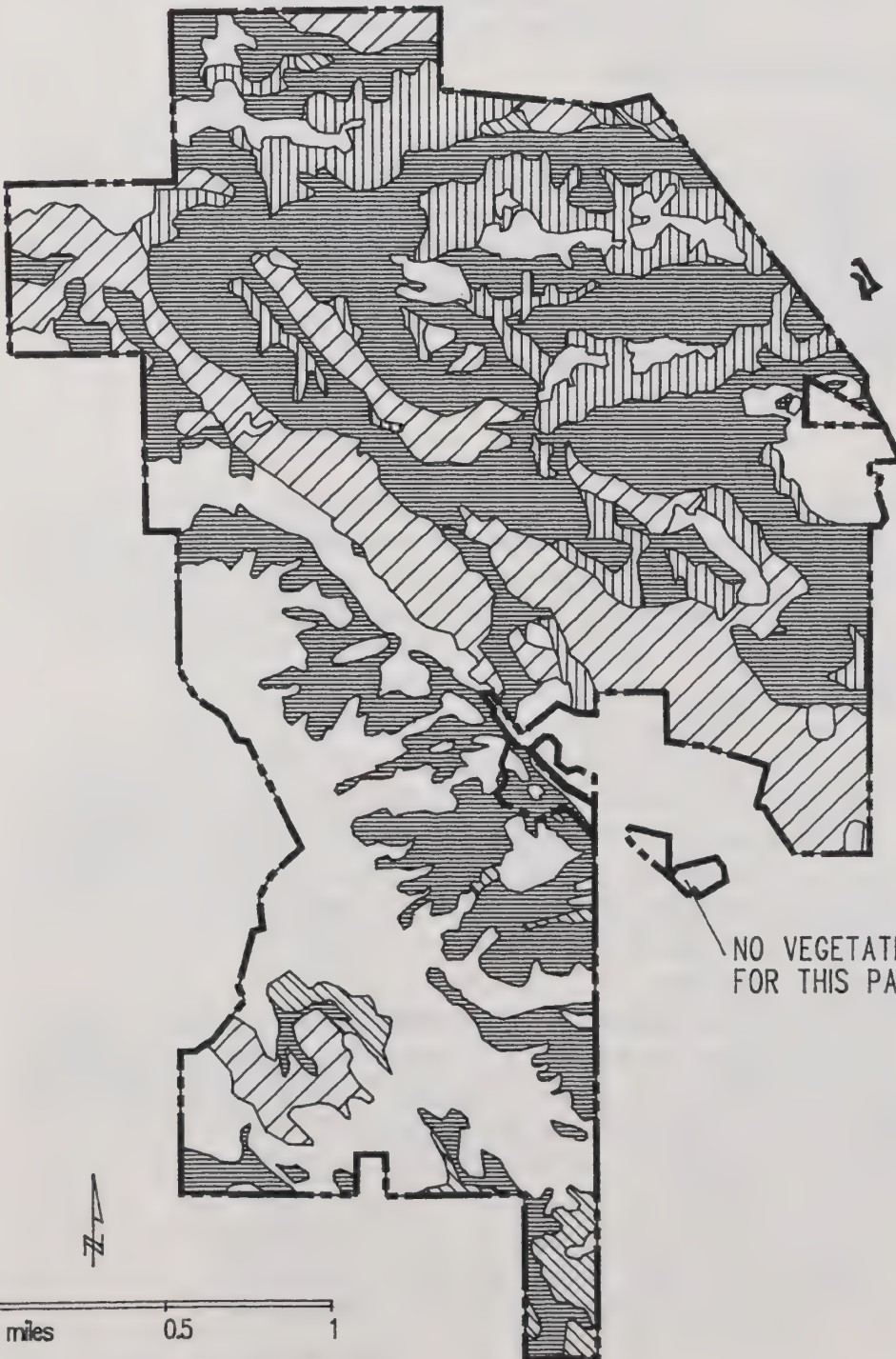
Background

Oak woodlands have been classified into distinct elements by Holland (1986). Each of these communities have their own successional dynamics and management needs, which require relevant management strategies. Oak woodlands exist in a mosaic with other plant communities in the park. The density of oaks and other associated tree species varies considerably, as does the ground cover, which ranges from little more than a layer of plant litter to a well-developed, diverse understory of native shrubs, herbs, ferns, and grasses.

Oak woodland is the dominant plant community in the Corduroy Hills section of the park. The majority of this area has been spared the detrimental impacts of past human activities due to its relative inaccessibility and steep terrain. As a result, the understory vegetation, where it is present, remains largely undisturbed, and contains a diverse assemblage of native plant species.

VEGETATION

-  Grassland
-  Bay-oak Woodland
-  Oak Woodland
-  Chaparral
-  Coastal Scrub



NO VEGETATION DATA
FOR THIS PARCEL



Livestock grazing in the Corduroy Hills section of the park is confined to the small number of animals that congregate on the open grasslands and adjacent oak savannas supporting an herbaceous plant cover similar to that of the grassland type. Grazing is used to maintain the ecological integrity of the grasslands, which occur as a mosaic of isolated islands among the various other plant communities and contribute to the vegetative diversity of the area. Livestock use within the denser oak woodlands is largely incidental and insignificant in the course of trailing, resting, and seeking shade and shelter as cattle migrate between the grassland areas.

Issue - Vegetation - Oakland Woodlands

Oak woodland communities in California are increasingly being threatened by urbanization and development. The apparent inability of some sites to sustain the production and recruitment of new tree seedlings imperils their continued existence. The park contains assemblages of various oak woodland types, which support a diverse understory component of native vegetation. The significance of these oak woodlands is in their relatively undisturbed condition, which must be preserved for the enjoyment of future generations.

Policy

The management policy, insofar as possible, will be to allow natural, ecological processes to take place. Grassland and oak savanna areas interspersed in mosaic fashion within the oak woodland will be actively managed consistent with the policies established for grassland and woodland understory vegetation.

Implementation Measures

- A conservation-oriented approach that allows and encourages natural, ecological processes to occur will govern management of oak woodlands on the park. Active management using prescribed fire and/or mechanical methods, may be required in limited situations to reduce fire hazard conditions, influence understory plant composition, or to sustain production and recruitment of tree species.
- Efforts to encourage oak regeneration, where necessary, may include adjusting grazing practices, protecting oak seedlings, releasing seedlings from competing vegetation, or planting acorns and seedlings from local genetic stock.

Shrublands

Background

Las Trampas Regional Wilderness contains many, diverse shrubland communities, which have been classified into distinct elements by Holland (1986). The various chaparral and scrub types on the park, which represent a composite of coastal, inland, northern, and southern communities, all converge in this one location. These shrubland communities exist as viable ecosystems of primarily native vegetation that are relatively uncommon in the East Bay, and, as such, warrant careful conservation and preservation.

Issue

Mature shrub stands protected from fire for a number of decades present a greater fire hazard than would occur under a more regular periodic burning regime. Certain brush species, such as coyote brush, poison oak, and broom can become exceedingly dense over time, diminishing species diversity, reducing food and cover for wildlife, and expanding the risk of catastrophic wildfire that could severely impact other natural resources.

Policy

Shrublands are important plant community types to be managed for their own intrinsic value as naturally functioning ecosystems.

Efforts to achieve fire control and resource management objectives will be consistent with maintaining shrubland community dynamics. Appropriate action will be taken when excessive shrub growth increases fire hazard conditions, diminishes existing plant or wildlife habitat, or interferes with public recreation and enjoyment.

Implementation Measures

- Management of shrubland vegetation, if necessary, may include the use of prescribed burning, mechanical methods, grazing, and/or chemical treatments. The need for such management will be assessed on a case-by-case basis.
- Consultations with biologists will be conducted prior to project implementation to identify, evaluate, and mitigate potential resource impacts. Transects will be established within the treatment area prior to project implementation to survey the existing plant community structure, and subsequently to monitor changes in plant composition that occur over time. Following treatment, these plant communities will be allowed to develop through their natural successional stages.

- Prescribed burning, when used, will achieve concurrent objectives of reducing fire hazards and of rejuvenating fire-adapted shrubland communities. Treatments will be timed and executed to create a mosaic of different successional stages within the shrublands.
- Land that has been burned by prescribed fire (or wildfire) will be evaluated and monitored to provide appropriate management in response to post-fire conditions, which may include the need for fencing to exclude domestic livestock. The level of action required will be determined on a case-by-case basis.

Riparian and Other Wetland Areas

Background

Riparian woodland occurs in a narrow band along Bollinger, Las Trampas, and Cull Creeks, and in steep canyons and ravines, primarily in the northern half of the park, such as Sulphur Spring Canyon. These riparian zones benefit wildlife by providing habitat, food, water and protective covering and by functioning as corridors for wildlife movement. Riparian vegetation also maintains water temperature and prevents erosion of the creek banks. Wetland vegetation occupies perennially wet locations along streams, within and around ponds, and in small, wet meadows associated with springs and seeps.

Issue

Appropriate management is necessary to preserve and enhance riparian and other wetland vegetation resources in the park.

Policy

Exclosures will be constructed to protect riparian and other wetland areas where livestock grazing occurs on the park. Where natural water sources are developed for livestock use, water storage facilities will be located on dry ground outside of the exclosures. Troughs will be designed to accommodate wildlife use. Spring-fed ponds will be protected once alternate livestock drinking water has been provided outside of or near the enclosed area.

Implementation Measures

- Exclosure fencing will be constructed to protect wetland areas and their ecotones around springs, seeps, and spring-fed ponds in areas of the park where livestock grazing occurs. The enclosed area will have an adequate buffer zone, which will include the entire wetland plant association.

- Livestock will be restricted to using the Valley Trail area of Bollinger Canyon in the early part of the growing season, and will be excluded from the riparian corridor for the remainder of the year by extending new fencing along the west side of Bollinger Creek. Water will be piped to the valley from an existing developed spring and/or EBMUD water lines to provide an alternate source of drinking water for livestock.

Special Status Plants

Background

Five rare plant species are known to occur in Las Trampas Regional Wilderness. Oakland star-tulip (*Calochortus umbellatus* Wood) inhabits several areas of the park. The highest densities occur along Elderberry Trail where individual plants are estimated to number in the thousands. The park contains the third largest population cluster of Diablo helianthella (*Helianthella castenea* Greene) in the Bay Area. Valley oak (*Quercus lobata* Nee) is a rare associate of the blue oak woodland community in the Corduroy Hills. One individual Northern California black walnut tree (*Juglans hindsii* (Jeps.) Jeps.) occurs in Bollinger Canyon. Mt. Diablo fairy lantern (*Calochortus pulchellus* Dougl. ex Benth.) is reported to occur in the Devil's Hole area of the park. Several other notable plant species are found on the park. These species are listed in Unusual and Significant Plants of Alameda and Contra Costa Counties (California Native Plant Society 1992).

Issue

The District has the legal responsibility to provide protection to state or federally listed rare, threatened, or endangered plant species. District policy also protects plants and their habitats that a competent authority has proposed for listing, such as threatened species and species of special concern, regardless of whether they have been formally afforded this status by the state or federal governments.

Policy

Rare, threatened, endangered, and sensitive plant species and their associated habitats will be conserved and protected. All potential direct, indirect, and cumulative impacts upon these species and their supporting habitats will be assessed, and conservation and protection measures will be developed on a site-specific basis. Efforts will be made to protect and enhance notable plant species identified by the California Native Plant Society as unusual and significant.

Implementation Measures - Vegetation - Special Status Plants

- Management will be carried out to maintain, perpetuate, increase, or restore rare, threatened, endangered, and sensitive plant species and their supporting habitats consistent with available scientific research and information. Foliage may be manually removed from within and around these plant populations to reduce competition from associated vegetation.

- Grazing will be used in areas where rare plant populations appear to benefit from the practice, such as in the case of the Oakland star-tulip, and will be excluded from areas where it appears to have a detrimental effect.
- Additional inventories will be conducted to determine the full extent of rare plant populations on the park, and a monitoring program will be established to periodically observe population size, habitat conditions, reproduction, viability, and changes in geographical distribution. This information will be used to provide appropriate management for these species, and to avoid potential adverse impacts associated with project work. Site-specific rare plant surveys will be conducted prior to project implementation.
- The District will assign special protection unit status to the populations and supporting habitats of the Oakland star-tulip, Diablo helianthella, valley oak, and Northern California black walnut.

Landscaped and Urban Environment

Background

The Little Hills Regional Recreation Area has operated as a group recreation site since well before its acquisition by the Park District. The picnic park is within an oak woodland where much of its charm is derived from the shady and canopied setting. The area contains numerous naturally-occurring native trees, and introduced, non-native trees, such as redwood, pine, cedar, and Lombardy poplar. The District monitors the health and structural integrity of trees occurring in picnic and recreation areas.

Issue

Some of the native trees, particularly the oaks, have been and continue to be subjected to a variety of stresses, such as: soil compaction from adjacent picnic areas, changes in water absorption from paving, and cutting and filling of the ground surface beneath tree canopies. Some tree species exhibit declining health and structural failure as a result of intensive site development and heavy, localized, recreational use.

Implementation Measures - Vegetation - Landscaped and Urban Environment

- Site development, maintenance, and facility management will be conducted to avoid adverse impacts to native trees.
- An assessment will be made to identify trees which have been negatively impacted by past site development, maintenance, or facility management practices. Mitigation measures will be implemented, where possible, to arrest or reverse existing damage.

Weed Pest Species

Three particularly aggressive and invasive weed species, artichoke thistle (Cynara cardunculus), purple starthistle (Centaurea calcitrapa) and yellow starthistle (Centaurea solstitialis) occur in open grasslands in Las Trampas Regional Wilderness Park.

Background

Artichoke thistle is a robust, stoutly-spined perennial that has become established in the grassland habitat of Las Trampas Park. Dense stands (100 plants per acre), can become a resource problem when their numbers either interfere with recreational use or dominate the vegetative composition of a grassland habitat.

The large size of artichoke thistle, growing up to 6 feet in height, and dense foliage, results in shading and suppressing the growth of more desirable vegetation (preferably native). Dense stands of artichoke thistle produce layers of dried, decaying leaf matter that forms a thick mat of thatch effectively preventing annual and perennial grasses and forbs from establishing the following year.

Purple starthistle is a relatively new invasive weed pest to Las Trampas Park. In 1972 localized, dense populations of purple starthistle were found in the rolling grassland areas of Rocky Ridge, east of Bollinger Canyon and at that time over 80 acres of rangelands, trails and roadsides were infested. Hand removal since 1981 has reduced the infestation to less than 20 acres. Dense stands (1000 plants per acre), can become a resource problem when their numbers interfere either with recreational use or dominate the vegetative composition of a grassland habitat.

Purple starthistle is a biennial (two years to grow to maturity), which grows into a coarse, rigid plant, 15-24 inches in height. Its bitter taste and stout spines discourage cattle, deer and other grazing animals from browsing on this thistle.

Yellow starthistle is a widespread summer broadleaf annual infesting most of the open grasslands of Las Trampas Regional Wilderness. No attempt has been made to estimate the number of acres infested because of the prevalence of this weed pest species.

Once established, this aggressive and invasive weed species impacts the grassland habitat by displacing more desirable grasses and native plants and their associated fauna. When thistle numbers are dense they create a thorny nuisance for the park hiker, thus limiting the visitor use and enjoyment of this wilderness park. While yellow starthistle is an excellent source of pollen for foraging honeybees, it can be highly toxic to horses when ingested.

Issues - Vegetation - Weed Pest Species

Approximately 25 acres of grassland has been invaded, with the density of artichoke thistles varying from occasional plants to impenetrable stands as found in Devil's Hole in the southwestern quadrant of this park.

Approximately 20 acres of purple starthistle infest the grassland of Las Trampas in various locations.

Localized dense stands of yellow starthistle have been observed in the rolling grassland areas west of Bollinger Creek and extending into Devil's Hole. During the summer months yellow starthistle is the most prominent summer plant in the open grasslands of Devil's Hole. East of Bollinger Creek populations of this starthistle are widespread throughout the grasslands of Las Trampas Ridge. Dense numbers of this plant can be observed along the grassland margins of the Del Amigo Summit, Ohlone and Madrone Trails leading to Las Trampas Peak. There are few grassland habitats on the east side of Las Trampas that do not support populations of this starthistle.

Policy

The District will continue to monitor and manage the grassland weed species. Monitoring will include evaluation of the impact of this thistle species on established grassland.

Given the widespread distribution of this yellow starthistle in various grassland habitats in this wilderness park, the District will not attempt to manage well established populations directly by mechanical, physical or selective chemical control means. The District will, however, minimize the impact on newly introduced populations with physical removal or biological control agents.

Implementation Measures

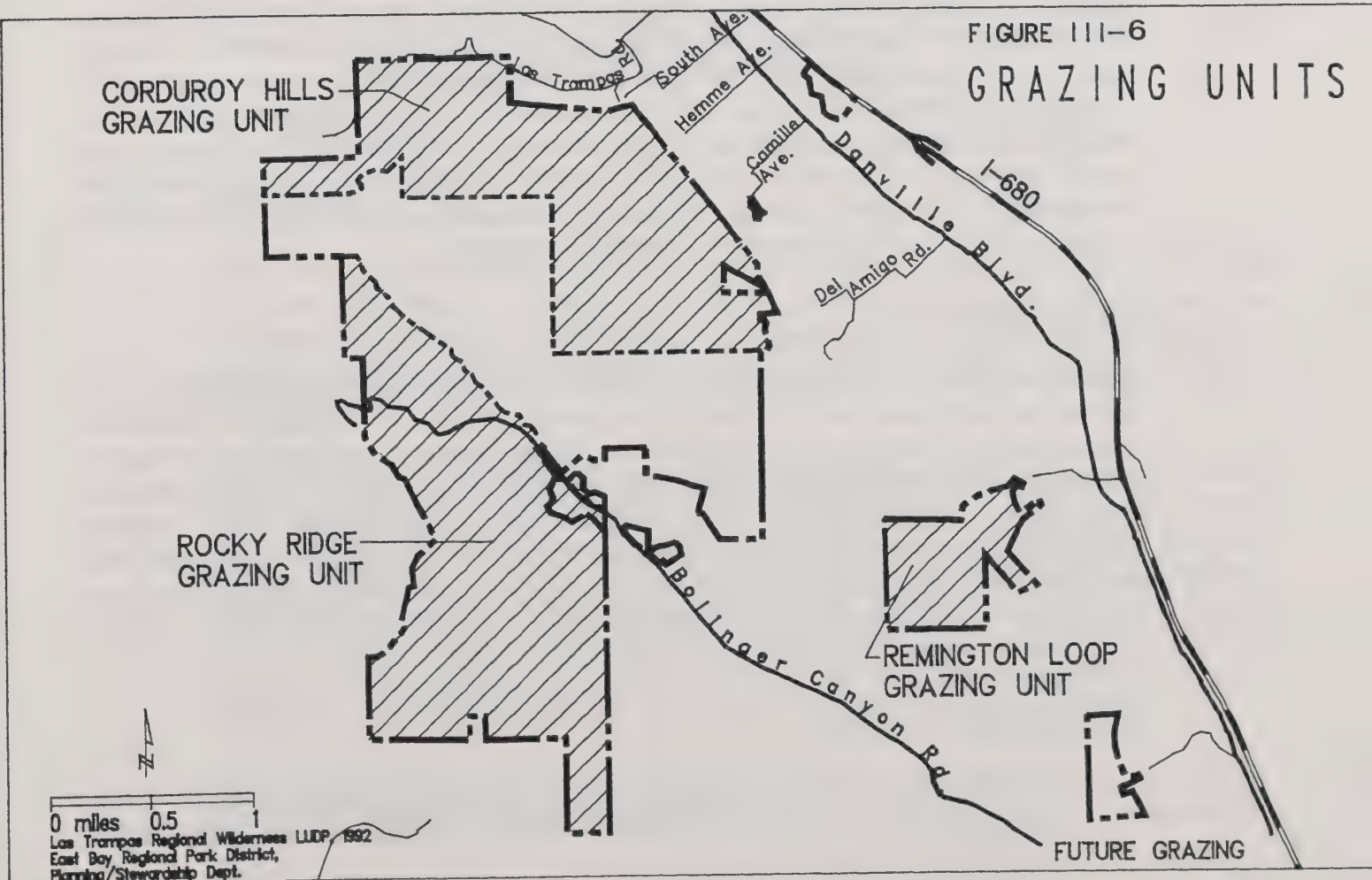
- The District will continue to monitor, annually, identified artichoke and purple starthistle populations in this wilderness park as part of the pest management resource data base evaluation system. The District will manage thistle numbers, where appropriate, with approved pest management methods (hand removal, selective herbicides and reseeding control sites with native annual and perennial grasses).
- As provided in the Wildland Management Guidelines, the District will inform, annually, the grazing tenant(s) as to the need and methods of controlling artichoke and purple starthistle in grasslands.
- Within the limits of available technology and funding, the District will utilize preventative management strategies to reduce the impact of yellow

starthistle in high-use areas of Las Trampas Park. These strategies will include giving priority to new development sites for public use. The District will employ cultural management practices (species selection, irrigation and mowing) in any meadow areas which give a competitive advantage to the turf and pasture species and will introduce appropriate biological control agents to limit the spread and colonization of this starthistle species at Las Trampas Regional Park.

4. Grazing

Background

Dramatic changes in the Bay Area's population, land use, economic base, extent and types of vegetation, and species of plants and animals have occurred since the first permanent Spanish settlement was established in the region over 200 years ago (Allen 1989). The pre-European landscape embodied ecosystems that were organized both structurally and functionally in patterns distinct from today (Allen 1989). Now, over two centuries later, these ecosystems occur as fragmented, often isolated islands within a broader urban framework.



The visual contrast of the remaining grasslands, woodlands, and shrublands are a small scale reminder of what was once the larger Bay Area landscape. While many elements of the flora and fauna have changed, numerous native plants and animals remain. Management in the context of the changes that have occurred is necessary to maintain natural landscapes as viable, functioning ecosystems. In many areas throughout the East Bay vegetation management efforts are often necessary to meet fire safety objectives and maintain the ecological well-being of our natural areas.

There are several methods commonly used for managing vegetation, which may involve habitat preservation, or include such management techniques as grazing, prescribed burning, mechanical treatment, chemical methods and/or biological control. Each method has advantages and disadvantages that determine its suitability for particular situations. Livestock grazing is a practical, readily available resource management tool used by the District on many of its inland parks, including Las Trampas, to accomplish various vegetation management objectives.

The park is separated into three, separate, logical grazing units (Corduoy Hills, Rocky Ridge, and Remington Loop) and management of these areas will address the conservation needs of the specific resources of each unit.

Livestock grazing on Las Trampas Regional Wilderness is managed according to current state-of-the-art scientific management principles and standards. Stocking levels for the grazing units on the park are determined using a scientific method of analyzing forage production on the various soil types found within the park. Residual dry matter standards are used to determine the amount of vegetation that should remain on the ground at the end of the grazing season. Monitoring is conducted in the park to verify compliance to established standards for livestock grazing, and to insure conformity to lease provisions.

Policy - Grazing

Grazing will be used to manage vegetation on Las Trampas Regional Wilderness. Grassland and woodland understory vegetation on Las Trampas is similar in species composition to that of other non-wilderness parks, and involves the same management strategies as would be applied elsewhere. The wilderness designation and character of this park, however, will warrant more careful monitoring of vegetation conditions to maintain and enhance native plant species and achieve appropriate visual standards. Other management options, such as prescribed burning, mechanical methods, and chemical treatments will be used in conjunction with grazing, when and where appropriate.

Implementation Measures

- The relative dominance, presence, abundance, and composition of native herbaceous plant species will be used as a criterion to determine range condition on different sites.

- Where the grazing regime needs to be changed to improve vegetative conditions, this will be accomplished by encouraging better livestock distribution through the use of fencing, herding, supplemental feed placement, and/or water development. Other options will include the introduction of alternate grazing systems, such as seasonal or rotational grazing, and/or the reduction of stocking levels.
- Grazing may be introduced in currently ungrazed areas, or excluded from areas otherwise suitable for grazing when exclusion is dictated by the need to protect other resource values. Specific changes as shown on Figure II-6 include:

Las Trampas Peak will be incorporated into the Corduroy Hills grazing unit.

Bollinger Canyon along Valley Trail will be limited to early season grazing.

Bollinger Canyon along Valley Trail will be fenced along the western side to exclude livestock from the creek. Alternate water for livestock and recreational use will be provided.

A five acre area above the main Las Trampas parking lot will be included in the Rocky Ridge grazing unit.

5. FIRE PROTECTION

Background

Within the past five years six fires have been reported in Las Trampas, within the Corduroy Hills area. The largest of these reached 5 acres in size. Five of the fires appeared to be accidental, while one was undetermined. Four bonfires also were reported to the EBRPD fire department by residents on the eastern side of the park (Alamo and Danville).

Responsibility for fire fighting in Las Trampas and Little Hills is divided into "Local Responsibility Areas" (LRA) and "State Responsibility Areas" (SRA). The California Department of Forestry has the primary jurisdiction, but EBRPD and the San Ramon Valley Fire Protection Department (SRVFPD) have concurrent jurisdiction in the park as well. These agencies operate under a county-wide, mutual response agreement. In the event of a reported fire, all appropriate responsible agencies are notified, and the closest fire fighting units are dispatched. EBRPD responds from different stations according to a weather rating system.

The fire road system within the park provides fire fighting access, but also serves as a fire break system and compartmentalizes the park, enabling fire personnel to

establish well-defined anchor points from which to base their work. The current system allows good access to most areas of the park and needs to be maintained at current levels. Due to steep terrain and long distances to municipal water supplies, wildland firefighting strategies in rural areas rely less on water than in urban firefighting. Firefighting techniques include creating fire breaks, using backfires, air drops, etc. Partial grazing of the park to suppress vegetation buildup is a major component of the fire prevention system. Disking and mowing are sometimes employed in limited areas for specific purposes. Water supplies in and around the park are described in the Resource Analysis. See Figure III-7 for the EBRPD Fire Response graphic which shows fire trails, staging areas and water supplies.

Fire modeling data was analyzed in March of 1992 to determine relative hazard-level areas within the park. For the westward blowing Diablo or Santa Ana wind conditions that create the greatest fire hazard, the study determined that the park does not present the most highly-rated threat to most adjacent residential developments because it is downwind of them and because a large portion of the boundary vegetation is native oak-bay woodland which is a moisture holding type of vegetation. However, as in all areas where housing abuts wildland areas, fire safety precautions must be practiced (Westward blowing Diablo or Santa Ana wind conditions were the type that caused the Oakland conflagration in 1991).

Issues

An improved fire trail system (including access points into the park) would enhance response time for fire prevention and rescue. Areas where improvements would be most advantageous are: access to Devil's Hole from Bollinger Canyon; connection between Las Trampas Ridge Trail and Madrone Trail; and the eastern edge of the parkland along the developed Alamo and Danville communities.

Based on the fire model data, the northwest and northeast corners of Las Trampas are identified as the highest-risk areas in the park. In the northeast corner (by Alamo) a fire in the park could spread to adjacent residential areas in any weather scenario because of its proximity. In the northwest corner (by Bollinger Canyon Road to Moraga) a northwest wind could carry a wildland fire to residential areas. Rates of spread are dependent on wind velocity, topography and fuel levels.

Policy- Fire Protection

The District will make physical changes to improve the firefighting access and circulation system at Las Trampas and Little Hills. It also will improve water supply facilities and continue fuel management methods such as planting, grazing, disking and mowing.

The District will continue to improve cooperative efforts with other fire districts and will increase contacts with neighbors regarding fire awareness and prevention.

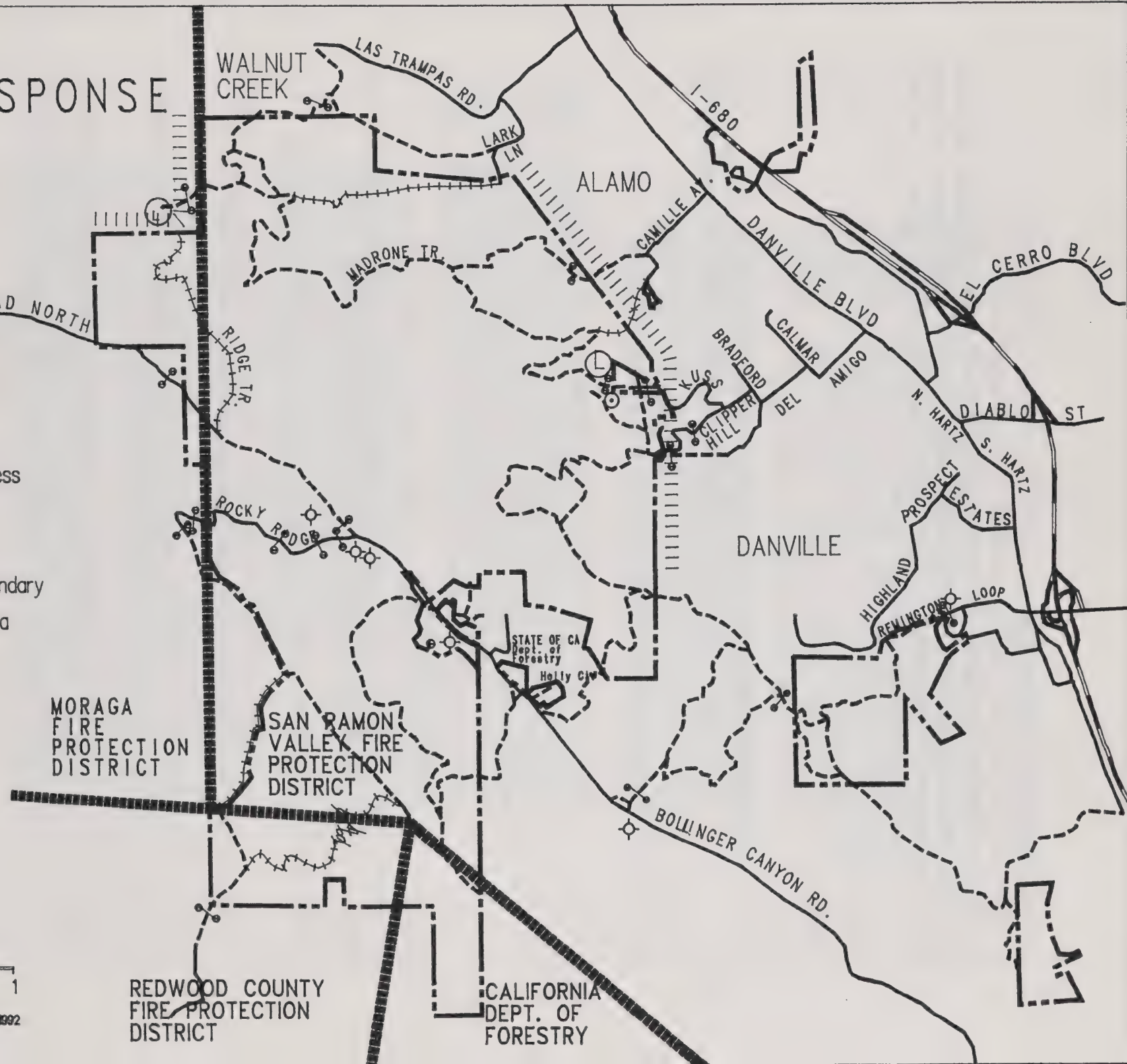
FIGURE III-7
FIRE RESPONSE

-  Future Fire Access
-  Paved Road
-  Fire Trail
-  Fire District Boundary
-  Highest Risk Area
-  Lagoon
-  Hydrant
-  Water Tank
-  Water Tank Without Coupling
-  Gate



0 miles 0.5 1

Las Trampas Regional Wilderness LUDP, 1992
East Bay Regional Park District,
Planning/Stewardship Dept.



111-24

Implementation Measures

The District will enhance the firefighting capabilities for the responsible agencies with an improved fire road system that will allow more rapid response and safe egress. See Figure III-8 for the following changes in the trail system (numbers show location of trails on map).

The District will:

- Maintain existing fire roads at current levels.
- (#6) Establish an agreement with EBMUD for the use of Skyway South Trail in the adjacent Upper San Leandro Watershed for fire (and maintenance) use to reach the Devil's Hole area, when the road is improved.
- (#G) Re-establish the Devil's Hole Trail as a fire road.
- Improve the fire road system on the eastern edge of the park by including more fire roads around the boundary and more fire access points. (#2) Re-establish a former two-track trail between Madrone Trail and Camille Lane. (#E) Construct a fire trail from South Avenue Trail to Madrone Trail along the northern boundary. (#D) Re-establish the Las Trampas Ridge Trail as a hiking/riding service trail to improve fire access between Bollinger Canyon and Alamo/Danville.
- (#13) Use a new access trail between Bollinger Canyon Road and Las Trampas Ridge Trail through a new acquisition section.
- Designate Bollinger Canyon parking lot as a firefighting staging area.
- Continue the grazing program to reduce fuel level as well as mechanical or other methods in particular areas where required.
- Establish a no-camp fire policy in the wilderness areas and post signs at entry points on the east side of Las Trampas.
- Monitor the fuel buildup in the northeast portion of the park adjacent to Alamo/Danville every six months. When the fuel levels are high and conditions conducive for burnings, prescribed fire may be employed in addition to other methods mentioned in this section.
- Maintain existing water tanks and ponds which can be used for firefighting systems and develop new springs and hydrant locations wherever possible. The District will replace the tank and rehabilitate the spring along Rocky Ridge Trail. The 10,000 gallon tank will serve fire hydrants and facilities in Bollinger Canyon. Sprinklers will be installed in the new nature center.

- Continue to work with other responsible firefighting agencies to improve prevention, response, cooperative firefighting techniques and education of the public. In upcoming meetings with other fire districts, the District will propose that a prescribed burn program be developed, especially for higher-risk areas; that a "preplan" be developed between responding agencies and that an intermix training system be instituted; that fire agencies meet prior to every fire season to develop plans for policing and prevention programs; and that a joint agencies group be established to speak to homeowners' groups regarding wildland fire home watch programs.
- The park will be closed when weather factors indicate high hazard or when the state notifies us of "Red-flag Alert" status.
- The District will investigate the feasibility of installing a Remote Automated Weather System at Las Trampas to increase forecasting precision for the District.

6. WILDLIFE

Wildlife and Habitat

Background

Las Trampas, with its varied terrain and habitat, is home to a diverse array of wildlife species. These species are both resident and migratory in nature and include natives and non-native species. Habitats include oak woodland, mixed evergreen woodland, grassland, chaparral, riparian drainages, springs and ponds. The extensive adjacent private and publicly-owned openspace lands directly influence the abundance of wildlife species in the park.

All habitat types provide territory for the complex interrelations between species. Most important is the connection between these habitats that allow the animals to travel through the park and to other open spaces. Riparian areas serve as a focal point of activity for nesting and denning; however, other habitats serve as a critical link in the existence of these park residents. Sandstone outcrops along Rocky Ridge and the dense woodlands on the east facing slopes of the park, are used as nesting and roosting habitat for raptors. Mammalian predators, including foxes, bobcats, ringtails, coyotes and occasional mountain lions, utilize many habitats for denning and foraging.

Issues

Corridors and adjacent complimentary habitats that increase the value of the park and surrounding open space to the larger predators are in need of protection from disturbance and isolation. These areas should be treated as one unit by the adjacent land-managing agencies.

Policy

The District will conserve native wildlife populations and protect or increase the population of endangered species.

The District will work with other agencies to promote methods of joint management and promote shared goals for the preservation of habitat and biodiversity, and protection of key species.

Implementation Measures

The District will take the following steps to protect and enhance wildlife species:

- Identify and protect nesting and roosting habitat for raptors and vultures.
- Identify and protect denning and feeding areas of key carnivores and omnivores.
- Design trail corridors to minimize human disturbances to animals and their habitat. Seasonal or permanent closure of trails will be employed where appropriate.
- Maintain safe use of pesticides and rodenticides in accordance with Integrated Pest Management (IPM) policies for controlling pest species in the park and for minimizing the possibility of secondary and direct poisoning of other desired wildlife species.
- Continue active grassland management such as livestock grazing, burning and mowing to maintain open foraging habitat and viable populations of prey species for raptors and for other grassland species.
- Coordinate with adjacent land owners, and consider joint management strategies with EBMUD, to protect and preserve large open areas as wildlife habitat, maintaining practical corridors and buffering sensitive species habitat.

Listed Species:

Background

The District has the legal responsibility of protecting animals that the State of California and the federal government list as rare, endangered or of special concern.

No federally listed species reside in Las Trampas, however, a Federally listed species, the Peregrine Falcon (Falco peregrinus anatum), was introduced to Mt. Diablo State Park and surrounding areas. This area is less than 10 miles from Las

Trampas. The species has established itself at Mt. Diablo and there is potential for seasonal use and future nesting at Las Trampas.

The Alameda Whipsnake (Masticophis lateralis euryxanthus) is a state threatened species that inhabits the park. The snake, and its chief prey, the western fence lizard (Sceloporus occidentalis), primarily exist in chaparral habitat, but has been observed using creek bottoms, grasslands, roadsides and oak woodland when in close proximity to chaparral habitat. Critical habitat for the Alameda Whipsnake in Las Trampas Regional Wilderness includes, but is not limited to, the chaparral habitat east of Bollinger Creek, Bollinger Creek and the grassland area between them. Critical habitat is defined as that habitat necessary for the survival of a species. Features of the critical habitat include cover, water, food, and nesting substrate and area large enough to prevent overcrowding and overuse. Radio telemetered snakes under study in other parks have travelled through grasslands and oak woodlands while enroute to areas of chaparral and have been recorded traveling linear distances up to 1000 meters.

The Golden Eagle (Aquila chrysaetos) is listed by the state as a Fully Protected Species and a Species of Special Concern. It is protected under the federal Bald Eagle Protection Act, the Endangered Species Act and the Migratory Bird Treaty Act. The eagle nests near the western border of Las Trampas Regional Wilderness and frequently forages in the park. It preys chiefly on rodents and other animals, especially ground squirrels and jackrabbits.

The Prairie Falcon (Falco mexicanus) is listed by the state as a Species of Special Concern. This species nests on the cliffs of Rocky Ridge and frequently forages in Las Trampas. Prairie falcon aeries (nests) serve as an important link in the management of the endangered peregrine falcon.

The Foothill yellow-legged frog (Rana boylei) is another Species of Special Concern listed by the state. The frog occurs near springs in Bollinger Creek and in other drainages within the park.

The Sharp-shinned (Accipiter striatus) and Cooper's Hawk (Accipiter cooperi) are listed as Species of Special Concern by the state and occur throughout the park. They nest in dense woodlands of riparian canyons and adjacent slopes. They prey chiefly on birds and small rodents which occur throughout the park, especially in brush and chaparral.

The American Badger (Taxidea taxus), listed as a Species of Special Concern by the state occurs in open grasslands. It is closely associated with the California ground squirrel (Spermophilus beecheyi) communities on which it preys.

The Great Blue Heron (Ardea herodias), listed as a Species of Special Concern by the state nests in eucalyptus trees at the end of Camille Lane in Danville near Las Trampas.

There are other species within the park that have been designated as "Notable Wildlife Species" because they are considered unique or special to the District, vicinity or park. The purpose of the designation is to ensure that staff is aware of their significance and location and takes steps to protect them. Although they carry no special legal status, they are still protected by the state and compliment the ecology of the park. Notable Animals in Las Trampas include the Ladybird beetle wintering congregations and resident populations of ringtailed cats (Bassariscus astutus), a nocturnal mammal related to raccoons. Also notable is the fact that Las Trampas as a large habitat area, is enhanced by adjacent public and privately owned open space lands that support viable populations of raptors and large mammals such as gray fox, coyote, mountain lion and bobcats.

Issues - Wildlife and Habitat - Listed Species

Declining species diversity is a local as well as national and international problem. Local efforts must be taken to protect our indigenous species and maintain biodiversity.

Policy

The District will protect and maintain animals and their habitats that are officially listed under the state or federal Endangered Species Act and those species that a competent authority has proposed for such listing as threatened species and species of special concern.

The District will conserve wildlife populations to foster native species and protect or increase the population of endangered species.

Implementation Measures

In addition to the Implementation Measures for wildlife mentioned above, the District will take the following steps to protect listed species:

- Protect all species from negative influences including collection, disturbance or loss of critical habitat.
- Protect the habitat from destruction and modification which might render it unsuitable for the species' continued existence. Negative factors include unmonitored road and trail development, frequent trail use, off-trail use, erosion and destruction of plant life.
- Designate a Special Protection Unit for the management and preservation of the Alameda Whipsnake and the Yellow-legged frog. Refer to Figure III-1.
- Survey for nest sites of the golden eagle, sharp-shinned and Cooper's Hawks or any other nesting raptor prior to any forest management or timber removal.

- Survey for and monitor populations of the Sharp-shinned and Cooper's hawks during the spring breeding season.
- Monitor breeding populations of yellow-legged frogs during winter and spring.
- Conduct spotlight surveys for badgers during spring and summer to determine the presence of animals.
- Design trail corridors to minimize human disturbances to nesting habitat of protected birds. Seasonal closure of trails will be undertaken when appropriate, especially during the nesting season (March - July).
- Preserve riparian habitat by enhancing existing springs to promote wildlife use, permanency of water, and to maintain pools of water during the breeding season of frogs. Maintain overflows at developed springs and ponds in the park to promote amphibian use.
- Remove exotic species affecting the survival of native species, including non-native bullfrogs (*Rana catesbeiana*) and centrarchids (warm-water fish) and promote the introduction of native fish species for mosquito control where appropriate.
- Fence springs and ponds to exclude cattle and promote growth of vegetation and increased quality of habitat.
- Protect woodlands by reducing trails bisecting these habitats and by preserving extensive chaparral units.
- Protect nest trees as a viable part of the heron habitat at Camille Lane, ceasing any timber harvesting or cutting from this grove during the nesting season (February - August). Actions such as timber removal, trail maintenance and brush reductions will be conducted in the fall only.
- Develop an educational brochure for distribution at the Nature Center and offer interpretive programs about the natural history of native and particularly, endangered species.

Feral Animals:

Background

Feral ducks and geese have been relocated to Las Trampas from other District parklands to help solve wildlife management problems. The practice has led to an increase in the population of these animals at Las Trampas, specifically in the pond near the O'Neill house.

It is also an illegal, but common practice, for individuals to release domestic dogs and cats into the park where they may become feral, breed in the wild and have severe effects on native species.

Issues

The relocation of feral ducks and geese to Las Trampas negatively affects the wilderness setting and increases the chance of spreading disease to wild duck populations and scavengers.

Feral dogs and cats usually survive only by feeding on garbage and refuse in the park, or by killing and eating native animal species. In addition, domestic animals allowed to roam freely from residences nearby enter the park and are prone to hunt and harass native wildlife.

Policy

The District will remove feral animals to foster wildlife populations and protect or increase the population of endangered species.

Implementation Measures

- No feral or domestic animals will be introduced to Las Trampas Regional Wilderness at any time. Feral and domestic animals will be removed from the park and taken to appropriate animal control centers or dispatched on site, if applicable.

Fisheries

Background:

Bollinger Creek once supported runs of steelhead (Oncorhynchus mykiss). As a result of extensive urbanization of the Walnut Creek corridor from the 1950s to present, steelhead runs have been extirpated. Currently plans are underway to restore the Walnut Creek channel for fisheries use. It is possible that in the near future, runs of steelhead and possible Chinook salmon (Oncorhynchus tshawytscha) may again have access to, and be able to successfully reproduce in Bollinger Creek.

The pond adjacent to the Eugene O'Neill house has historically received fish and wildlife species which are not native to Las Trampas Regional Park. The pond becomes anoxic during the summer months. This condition prevents fish and some amphibians from successfully reproducing there.

Issues

Adverse conditions in Bollinger Creek and the O'Neill pond will make it difficult to reestablish the fisheries unless they are corrected.

Policy

The District will conserve wildlife populations to foster native species and to protect or increase the population of endangered species.

Implementation Measures:

The District will take steps to provide suitable habitat in Bollinger Creek. These steps would include:

- Where possible, control erosion in Las Trampas and Little Hills and along Bollinger Creek.
- Eliminate excessive sources of bacteria and nutrients, particularly from the stables, from entering the creek.
- Provide adequate riparian cover and stream bed habitat.
- Prevent the introduction of hatchery strain rainbow trout, as well as non-native fish species from entering the creek system.
- Prevent ground water contamination and usage where possible.
- Investigate dredging of O'Neill pond as a restoration measure to support native aquatic species.

Prohibit the introduction of non-native fish, amphibian and reptile species into the waters of Las Trampas Regional Park. Introduce and/or encourage the use of these habitat areas by native fish, amphibian, and reptile species, including, but not limited to:

Sacramento Perch	(<u>Archoplites interruptus</u>)
Sacramento blackfish	(<u>Orthodon microlepidotus</u>)
California Roach	(<u>Hesperoleucus symmetricus</u>)
Rainbow trout	(<u>Onchosynchus mykiss</u>)
Sacramento Sucker	(<u>Catostomus occidentalis</u>)
Western Pond Turtle	(<u>Clemmys marmorata</u>)
Alameda Whipsnake	(<u>Masticophis lateralis euryxanthus</u>)
California Red-legged frog	(<u>Rana aurora draytoni</u>)
Foothill Yellow-legged frog	(<u>Rana boylei</u>)
California Newt	(<u>Taricha torosa</u>)

Pest Species

California Ground Squirrel (Spermophilus beecheyi):

Background

The California ground squirrel is a native rodent widely distributed throughout the Bay Area. Under favorable circumstances, ground squirrels are capable of a rapid population buildup and high populations can cause erosion and increased risk in the transmission of several human diseases. In park use areas, damage to facilities and structures also can occur. In park wildlands burrowing activity can result in the loss of desired vegetation and an increase in certain weed species.

The California ground squirrel is a potential pest species at Las Trampas Regional Wilderness.

Issues

One small colony (15 individuals) is located near the property line at the Eugene O'Neill National Historic Site on the west side of Las Trampas ridge.

Policy

The District will minimize potential of health and safety risks to the public and park staff from ground squirrel activity and will develop management programs when squirrel population affect the management and use of public resources.

Implementation Measures

- The District will monitor periodically and record population counts of the small colony of ground squirrels located near the property line at the O'Neill National Historic Site. Should there be a significant increase in population numbers, the District will take action to suppress their numbers. The District Pest Management Policies and Practices Manual (1987) establishes guidelines defining an "action threshold". Rodenticides will be used to suppress ground squirrel numbers when the established action threshold is exceeded. Modification of the habitat, e.g., deep ripping to destroy established burrow systems, removal of rock, brush piles and debris, make an area less desirable to ground squirrels and is the preferred management strategy.
- The District will discuss with the National Park Service any action to suppress ground squirrel numbers and will encourage adjacent private property owners to manage ground squirrel colonies, incorporating safe control practices which minimize the risk of secondary and non-strategic poisoning.

Western Yellowjacket (Paravespula pensylvanica)

Background

The western yellowjacket is a common pest wasp in Las Trampas Regional Wilderness Park. This species favors open, dry grassland and oak woodland habitats typical of this wilderness park. Wasps are present from early summer to late fall. Their underground nest sites can be found along roadsides and trails, in root cavities beneath oak trees in the Bollinger Canyon area and in abandoned gopher or ground squirrel burrows. Their pestiferous foraging behavior is disturbing to picnickers. Serious infestations are cyclic and occur about every seven years.

Issues

Recreational activities provided at Las Trampas and particularly Little Hills Regional Recreation Area tend to attract a scavenger species like the western yellowjacket.

Policy

Minimize the problem yellowjackets pose in public recreation facilities and reduce the number of human encounters with yellowjackets.

Implementation Measures

- Within the limits of available technology and funding, the District will utilize preventive management strategies to reduce the impact of yellowjackets in high-use areas of Little Hills Regional Recreation Area and Las Trampas Regional Wilderness Park. These strategies include a sanitation program (frequent garbage collection, spring-top lids on garbage cans) in high-use picnic areas and traps using wasp attractants.
- The District will increase its yellowjacket educational program for park users.

7. CLIMATE AND AIR QUALITY

Background

Given the generally low automotive use consistent with its wilderness status, automobile exhaust is not expected to have a significant impact on air quality in or around Las Trampas.

The proposed use of prescribed fire as a vegetation management practice could cause air quality deterioration both within and adjacent to the park. Prescribed burning is regulated by the Bay Area Air Quality Management District through the designation of "Burn" and "No Burn" days.

Trail use and occasional road and trail maintenance activities may cause locally dusty conditions.

Policy

Avoid contributing to violation of air quality standards for both chemical and particulate pollution.

Implementation Measures

- Prescribed burning will be conducted only on designated "Burn" days.
- Road and trail maintenance activities will be limited to low wind conditions whenever possible.

8. HISTORICAL/CULTURAL FEATURES OR SITES

Background

The Master Plan and the Historic Sites Policy, adopted by the Board in 1991, call for the protection and maintenance of historic sites. The new policy sets up a confidentiality status system for the protection of the historic resources. Las Trampas resources will be studied in more detail in an Historic Sites Inventory Program by the EBRPD Operations and Interpretations Department during the summer of 1992.

An archeological investigation of Las Trampas Regional Wilderness was conducted in 1989. It found no evidence of prehistoric habitations or remains, but recorded a number of homestead sites. These sites shown are all marked by exotic or orchard plantings or fencing. They include the Trelut Homestead, Kurt Mueller Homestead, Reynolds Ranch and Richard Mueller former residence and a corral area. These are shown in the Resource Analysis.

The eucalyptus grove at Devil's Hole consists of seven large mature trees and about 20 smaller trees. The site is not included as a homestead site in the 1989 archaeological investigation. But such plantings generally occur because of human activity. The small group of trees serve as a landmark or focal point for the Devil's Hole area.

The original Eugene O'Neill estate included approximately 158 acres, but only 13.19 acres are now within the National Historic Site. The remaining acreage is owned and administered by EBRPD as a part of Las Trampas Regional Wilderness. District ownership includes key cultural resources including the O'Neill historic orchards and Blemie's grave.

Issues

The December 1990 National Park Service Final Impact Statement and General Management Plan states the desire of NPS to readjust the park's boundary line to regain O'Neill resources and improve administration and operations, including fencing and parking. The report maps show a desired boundary.

Policy

The District will evaluate historic features and develop appropriate management prescriptions for them.

Implementation Measures

- While the Eugene O'Neill National Historic Site resources remain in District ownership, they will be accorded the maximum protection status by being designated within a Special Protection Unit (see Chapter III.B). The District will annually contact the NPS supervisor to discuss any planned maintenance tasks and procedures that could affect historic resources. No work that could affect the features or the area in question will be implemented without the prior knowledge of NPS.
- The District will work with the National Park Service to resolve resource protection and management, safety, fire protection, boundary and administration issues to the satisfaction of both agencies.
- The District will study the existing historic sites of Las Trampas as part of the Historic Sites Inventory Study including photographing and mapping the resources. The project will include further research into the significance of sites (particularly the presumed homestead site at Madrone Trail to determine if it was a Chinese camp). Staff will record information, make recommendations for detailed prescriptions for site management and will make appropriate information available to the public. The Historic Site Study will investigate appropriate ways of preserving this park history when these old plantings die out. This could include marking the sites.
- The Historic Sites Inventory Program will determine if there is any historical significance to the eucalyptus trees at Devil's Hole. The District will retain the large trees as a landmark or focal point for Devil's Hole, but the grove will not be permitted to expand.



D. FACILITIES AND CIRCULATION

Introduction

Las Trampas Regional Wilderness is a large regional parkland on the edge of rapidly growing San Ramon Valley. There are many miles of scenic trails within Las Trampas as well as beyond its boundaries in the adjacent Upper San Leandro Watershed and Redwood and Chabot Regional Parks beyond. Las Trampas has equestrian and youth group camps while Little Hills Regional Recreation Area provides a popular group picnic facility and stables with boarding and trail rides for the public. This variety of regional recreational opportunities serves local as well as regional residents.

The Las Trampas to Mt. Diablo Trail operates between Mt. Diablo and Highway I-680. This plan shows the route which will take the trail to Las Trampas.

The majority of facility planning issues that were raised in the 1990 Resource Analysis and that are addressed in this plan include bringing existing facilities in line with the Wilderness Concept, appropriate development for the wilderness, additional access and adequate parking.

1. Visual Aspects

Background

The primary visual features of Las Trampas are the towering Rocky and Las Trampas ridges. Within the dramatically steep topography are deep, secluded canyons and narrow ridges set off by striking cliffs and scenic wind caves as well as the mosaic of native flora. On the ridges one can enjoy the sweeping panoramas of the delta, East Bay hills, Mt. Diablo and urbanized valleys.

The ridges are also important features outside of the park as they form the backdrop for surrounding urban areas. The relatively undeveloped nature of many adjacent properties gives Las Trampas the appearance of being bigger than its 3,500 acres.

The recreational and service facilities of Las Trampas and Little Hills are clustered along at the end of Bollinger Canyon Road. These include the main parking lot, service yard, Las Trampas Stables and Little Hills Picnic Park. They are adjacent to other facilities owned by the State and Tracor Aerospace International (which is the largest of these developments). While vegetation, topography and the general clustering of facilities reduce their visual impact, all detract from the natural quality of Las Trampas.

Issues

The District's stables facility contains many structures which are crowded into two small areas along Bollinger Canyon Road. A maximum of 131 horses are kept at

one time. These horses are fed by the operators and no horses graze in pastures. The paddocks where the horses are kept are denuded of vegetation. There is very little landscaping or screening of the stables, thus, they appear stark and barren in contrast to the verdant hillsides behind them. All of these factors contribute to a non-park like appearance at the entrance and from the ridges of Las Trampas Regional Wilderness.

Riparian vegetation was removed in Bollinger Canyon (for a slope stability project) next to the Little Hills picnic park ball field exposing the large irrigated lawn to Bollinger Canyon and Road. This brings a "developed" look into what could be a more natural setting, and deprives the ball field of privacy.

Utility poles at Las Trampas and Little Hills and some derelict fencing detract from the pastoral quality of the park.

The streets and buildings of the adjacent TRACOR light industrial facility is particularly visible from both ridges in the parkland and contrast greatly with the surrounding rural landscape.

Continuing development, especially along the eastern edge of the park, tends to define and shrink the park, detracts from the scenic beauty and wilderness quality and affect views within the park.

Policy - Visual Aspects

The District will improve the undesirable existing visual aspects of park facilities wherever possible. The District will make a particular effort to improve the appearance of Las Trampas Stables.

The District will design new facilities to be unobtrusive to enhance the wilderness quality of the park and minimize intrusions upon the Park viewshed.

The District will work with local agencies and neighbors to buffer the undesirable visual impacts of adjacent residential development from the park wherever possible.

Implementation Measures

- Refer to Section III.E.3, Recreational Facilities, for the discussion on the Las Trampas Stables, Little Hills picnic park and a nature center for planned visual improvements. Also refer the discussions of new parking areas in section III.E.2.
- The District will continue to underground utilities when feasible, in accordance with District wide policy, as new services are installed or when otherwise possible. It will remove unnecessary fencing, structure or debris that detract from natural qualities.

- The District will work with adjacent industrial landowners to reduce visual impacts such as the size of paved areas and structures whenever possible, clean up debris piles, select appropriate colors and plant additional screening vegetation, particularly natives.
- The District will minimize grading for constructed facilities, like building sites and parking lots and will design facilities to fit in with the natural topography as much as possible. Techniques such as mounding will be used along with vegetative screening to hide facilities from view, when appropriate.
- The District will continue to monitor all proposed land use changes for properties adjacent to the parks to ensure visual, environmental, and recreational continuity. This will include obtaining scenic easements where appropriate. The District will support Federal, State, County and City efforts to retain other lands adjacent to the park as open space.

2. Circulation and Parking

a. Auto Access and Parking

Bollinger Canyon

Background

Public auto access to Las Trampas and Little Hills parking lots is on Bollinger Canyon Road (from Crow Canyon Road in San Ramon). Bollinger Canyon Road is a county "collector" road which dead ends at the Las Trampas parking lot where the park gate is also located. The existing Las Trampas lot only serves about 30 to 35 cars, but vehicles also park on both sides of Bollinger Canyon Road when the lot is full or if users plan to stay after the lot is closed. Heavy use days are usually the fair weather weekend days and holidays. Equestrians park in the lot and on the road. Equestrian groups using the Corrals Camp park as many as 25 to 30 rigs (car and trailer) for a reservation event. Youth groups may park 2 vehicles there.

Parking for the stables includes a 7 to 10 car lot near the store as well as perpendicular spaces for 16 cars on the west side of Bollinger Canyon road. Staff park 4 vehicles over the septic tank. Visitors park along the road when these lots are full.

The Little Hills picnic park has a newly graveled parking lot for 150 to 175 cars. About 100 more park in an overflow dirt lot at the beginning of Elderberry Trail. 40 to 50 more cars also park on both sides of Bollinger Canyon Road. Parking turnover is very low, and the number of persons per car varies with different types of groups. This parking system is regarded as adequate for the maximum park capacity.

The State of California owns two facilities along Bollinger Canyon Road. Holly Court is a former Nike base housing development, used for a California Conservation Corps housing facility in the 1970's. It has roadside and driveway parking spaces for approximately 25 cars. The California Department of Forestry's Forest Pest Management Center is located just north of Holly court and includes leased space for the Las Trampas service yard. As many as 30 service vehicles have parked in this area during high use periods.

Issues - Circulation and Parking - Bollinger Canyon

The Las Trampas parking lot is not adequate for high use days and has no designated spaces or adequate turn around space for equestrian rigs or buses.

The parking lot has sometimes been used as a partying spot after hours which is against District ordinances and disturbs neighbors. The entrance into the parking lot (across the creek) is too narrow for two way traffic.

The stables parking lot is congested because of the many activities that converge there. Parking often conflicts with pedestrians and equestrians and parked cars sometimes impede pumping of the chemical toilets. Parking is insufficient for high use days. The concessionaire estimates 15 spaces are needed for current use levels.

Policy

The District will maintain the end of Bollinger Canyon Road as the major parking and staging area for Las Trampas Regional Wilderness.

The District will cluster the majority of additional improved parking near the existing parking a lot and along Bollinger Canyon Road at various location south to the 50 acre pasture to provide for existing and future needs. This will minimize the impact of cars on other, more remote areas of the Wilderness Unit while accommodating existing and future needs.

The District will discourage after hours use of the parking lot by making the parking lot less accessible to after hour users.

The District will not increase the parking capacity of Little Hills.

Implementation Measures - Circulation and Parking - Bollinger Canyon Parking

- Existing parking lots in Bollinger Canyon and along 1/2 mile of Bollinger Canyon Road will be retained and improved. (See Table III-1.) Additional new parking will be constructed at the existing parking areas and at the Life Estate and 50 Acre Pasture on a phased basis, as needed, increasing parking from 100 to 200 spaces. The Life Estate parcel will serve as the

primary new parking location for the nature center. Other areas will serve trailhead and picnicking. New parking areas will be paved, gravel or dirt.

- The existing Las Trampas parking lot will be enlarged to accommodate a larger turning radius, drop off zone and possibly additional cars. It may be paved and the existing drainage swale around the lot may be altered to drain appropriately. The creek crossing into the lot will be widened to accommodate 2-way auto traffic and pedestrian traffic. (Refer to Geotechnical report for design criteria.)
- The District will seek Department of Fish and Game permits to construct an additional auto/pedestrian creek crossing just east of the Interpretive center to enhance loop circulation. Two or three additional pedestrian bridges will be constructed across the creek to allow easy access between parking and facilities and trails.
- The District will utilize effective design and operation of the staging areas to deter vandalism and unauthorized activities. Security measures would include control gates and tire spikes.
- Parking capacities will remain the same at the stables, Little Hills picnic park, Corrales Camp, CDF and Holly Court.
- The District will work with Contra Costa County to complete abandonment of about 1/2 mile of Bollinger Canyon Road from the parking lot to the intersection of the road and Elderberry Trail (near the entrance to TRACOR). The Park District will take over maintenance of this section of road and move the park gate from the end of the road to the Elderberry Trail where a large shoulder area can accommodate a turn around. This will reduce after house use of the parking lot and improve surveillance.
- The turnaround space on Bollinger Canyon Road near Elderberry Trail mentioned above will be designed and constructed to accommodate pull through spaces for dedicated equestrian parking for about 7 to 10 rigs. Additional rigs can also park along Bollinger Canyon Road.
- Bollinger Creek will be protected with a future creek setback of 50 feet for new parking and structures. (See Hydrology Section.)

Regional Trail and Corduroy Hills Parking

Background

There are no staging/parking areas located on the Alamo/Danville (eastern) side of Las Trampas which serve Corduroy Hills. Staging areas are trailheads that could include a bulletin board, picnic tables or toilet, in addition to the parking lot. Park visitors may park on residential streets to use the trails heads for the Del

Amigo and South Avenue trails since no off-street parking lots are provided at those locations. Regional trail parking for 12 cars and 5 equestrian rigs is planned in Magee Park just west of Interstate 680, along the future route of the Las Trampas to Mt Diablo Regional Trail. No other parking exists established for the regional trail west of I-680.

East of I-680, EBRPD funded the construction of the Machado Staging Area at the eastern end of the Las Trampas to Mt Diablo Regional Trail in Mt. Diablo State Park. This parking serves both the trail and the state park.

Issues

There is no established parking at Las Trampas to provide access to the East side of Corduroy Hills. Visitors must park on city streets. Increasing population and a growing awareness of the park may increase on-street parking in established residential neighborhoods.

Opportunities for parking on the eastern side of Las Trampas are limited because of existing development. Several potential staging or parking sites along the Corduroy Hills area were identified in the Trail Corridor Study Area.

Policy

The District will provide limited parking at dispersed areas on the eastern side of Las Trampas to serve as trail related parking for the Regional Trail as well as parking for the Corduroy Hills area of Las Trampas. Several small lots will reduce impacts of parking on neighborhood streets and disperse public use of trails within the park.

Implementation Measures

- The District will pursue acquisition of site for staging or parking for between 10 to 40 cars including 6 equestrian units at the end of Camille Avenue. The District will seek an area away from residential areas and an area suitable for a hiking and riding trail into the park and fire, rescue, patrol and maintenance access.
- The District will seek a site for staging at the end of Hemme Avenue for 10 to 40 cars.
- The District will seek a weekend regional parking designation in the Rancho Romero School parking lot up to 20 cars.
- Prior to the opening of staging areas, the District will include surrounding neighbors in an orientation/park watch program.
- The District will enforce the dusk-to-dawn park curfew.

Other Areas of Las Trampas Parking

Background

There are no public parking lots, staging areas or access points on the north or southwestern edges of the park or in the southern Danville/San Ramon area.

The Danville General Plan and Trails Master Plan show a proposed staging area with equestrian facilities near San Ramon Valley Blvd., southeast of the Las Trampas Remington Loop parcel.

Issues

There is limited access and no established parking lots to the other areas of Las Trampas. This limits both local and regional access.

Policy

The District has identified other potential parking or staging areas at the edge of Las Trampas at dispersed locations to provide access but not impact any one area.

Bollinger Canyon Road will continue to provide major access to the wilderness and developed recreational facilities.

Implementation Measures for Other Areas of Las Trampas Parking

- EBRPD will work with Danville to implement the parking and facilities shown on the Danville General Plan in southern Danville near Remington Loop to provide staging for the Danville/San Ramon area on the east side of Las Trampas. This area would accommodate 20 to 50 cars with 10 additional equestrian spaces.
- A staging area near the end of Cull Canyon Road to provide access into Devil's Hole will be sought.
- The District will continue to work with local agencies to provide additional local access routes into the park from adjacent areas that are developed for residential use.

LAS TRAMPAS/LITTLE HILLS/REGIONAL TRAIL
PARKING ESTIMATES

Table III-1

I. MAJOR PARKING BOLLINGER CANYON	Existing (Range)	Add'l. Car (Range)	Equest. (Range)
LAS TRAMPAS PARKING			
Existing lot, roadway	100		
Reconfigure existing and add Life Estate, 50 ac. pasture.		60 - 100	
	Subtotal {160 - 200}		
Equestrian Trail Head move near Elderberry Trail on Bollinger Canyon Road.			7 - 10 no change
Corrales Camp Equestrian Reservations event only.			25 - 30 no change
			(31 - 40) no change
STABLES			
on-street	16		
lot and staff	7 - 14		
	(23 - 30) no change		
LITTLE HILLS			
Gravel lot	150 - 175		
Overflow	100		
Roadside	40 - 50		
	(290 - 325) no change		
SERVICE YARD			
CDF (& EBRPD)	5 - 30		
Holly Ct. (Including future stable paddock)	5 - 25		
	(10 - 55) no change		

II. <u>POTENTIAL PARKING</u>	Existing (Range)	Add'l. Car (Range)	Add'l. Equest. (Range)
SOUTHEAST SIDE - FROM CULL CANYON ROAD	None	30	10
EAST SIDE - CORDUROY HILLS/REGIONAL TRAIL			
Camille Avenue			
Magee Park*	12 car 5 Equest.		
West of Public Road	None	10 - 40	5 - 10
Hemme Avenue			
West of Public Road	None	10 - 40	None
Rancho Romero School	None	10 - 20	None
Subtotal	None	(42 - 112)	(10 - 15)
SOUTH DANVILLE	None	20 - 50	10

*Adopted by Danville/Contra Costa County (Not a part of LUDP/EIR)

b. Trails, Service/Emergency Roads and Access Points

Background

The trail system is the most extensive and well used recreational facility in Las Trampas. The system includes one-track - hiking only and hiking/riding trails and two-track - hiking/riding/service trails. Las Trampas trails are a physical challenge to park users, because of the very steep topography.

Most two-track trails existed before park acquisition as ranch roads and one-track trails were established by the District or by park users. Trail maintenance for the two track trails is generally performed by a contractor using large equipment. Maintenance is much more difficult and expensive for the one-track trails which have to be maintained by hand and equipment has to be carried into remote areas. These trails are currently maintained by Contra Costa and the East Bay Conservation Crews. Conservation crews time is allotted to Las Trampas along with all the other parks by District management. Generally, the park receives about 2 to 5 weeks of crew work per year.

General Trail Issues

Loop circulation is a problem for all users groups and for park maintenance, rescue and patrol crews in all areas of the park. Park users request that short, medium and long loops (from one to 15 miles) be provided for a variety of experiences.

Some boundary lines do not relate to the geography resulting in access and circulation difficulties such as trails that dead end at the park boundary.

The three separate sections of Las Trampas are not connected by trail, making it impossible to hike or ride from one area to another

Some newly acquired properties are not yet signed or fenced which confuses users and is difficult to patrol.

Some trails are very steep or poorly located in relation to the topography. These are difficult for visitors and park vehicles to negotiate and some of them have continuing erosion problems.

Trails close to creeks and drainages increase erosion and pollution in the seasonal waterways.

The District has a continuing problem of illegal 4-wheel and motorcycle use of the trails. The most frequent illegal access is through Rossmoor from Las Trampas Road.

Many visitors ascend Rocky Ridge (on Elderberry, Cuesta and Rocky Ridge trails) from the main parking lot to hike along the top of the ridgeline. However, part of the ridge top is owned by EBMUD which requires a trail permit for entry into Upper San Leandro Watershed. Visitors often arrive without knowing about the restriction and consequently trespass to complete their desired hike on "Tower Trail".

Speakers at District public meetings have requested unrestricted or easier access into EBMUD from Las Trampas.

Hiking only and Hiking/Riding Trails (one-track)

These trails constitute about 22 miles of trails in park. They are generally about 18 inches to 4 feet wide.

Issues Refer to Figure II-3.

Lack of a trail link between Madrone Trail and Las Trampas Ridge Trail, due to intervening property ownership, prevents park users from completing a possible large loop within the Corduroy Hills.

Equestrian use of Corduroy Hills, east of the Las Trampas Ridge Trail and Gooseberry Trail is relatively low because of the lack of acceptable loops. Trails #15 and #16 have not been signed and are not maintained. Few riders use them.

Some trails are duplicative of nearby trails: these create added maintenance demands and fracture the habitat into smaller areas.

Horses have a greater impact on trails than other users, especially when trails are wet. Horse trail traffic is particularly heavy around the stables. Heavily used trails require more maintenance.

Many unofficial trails, created by users, have been established over the years. This increases erosion and maintenance responsibilities.

Hiking and riding trails, identified as Trail #15 on Figure II-3 are located in riparian areas of Corduroy Hills. They are not well built and would require substantial construction to provide a stable and well-aligned trail, particularly because of erodible soils and large elevation changes. Riparian drainages are identified in the NRMP as some of the most valuable wildlife habitat which should be protected as much as feasible.

Trails require higher maintenance at Las Trampas than at other parks because of their steepness, inaccessibility and poor current condition.

Equestrians must use the trail along the shoulder of Bollinger Canyon Rd. from the stables to Elderberry Trail to reach Las Trampas. Occasionally there are some auto/horse conflicts at the Little Hills driveway.

North of the Elderberry Trail some horsemen continue to ride along the road shoulder rather than using Elderberry Trail to reach the Valley Trail. As parking along the road increases in the future there will be greater potential for horse/auto conflict.

Hiking/Riding/Service trails (two-track)

Two-track trails in the park accommodate service vehicles in addition to hikers and equestrians (and bicycles on a few trails.)

There are several service only access trails into the park on which do not allow public access. These are called emergency vehicle and maintenance access (EVMA) trails. Many service trails are extremely steep, particularly the Del Amigo trail. Driving in the park is limited to four-wheel drive on most trails.

A geotechnical study was conducted as a part of the Las Trampas planning effort to evaluate the feasibility of improving the service trail system for fire fighting purposes, particularly on the eastern edge of the park. Improved fire roads will shorten response time, enhance the fire break system and aid in fire fighting. The study included evaluation of reconverting the Las Trampas Ridge Trail and Devil's Hole Trail to vehicular use. (Recommendations of the report are incorporated in the Implementation Measures below for trails #2, 17 and 20.

Devils Hole Trail accommodated service vehicles until several years ago but was later designated as a hiking/riding trail. There is currently no vehicular access to Devil's Hole except for a very long trail from Castro Valley through EBMUD land. The Las Trampas Ridge Trail was a ranch road prior to District ownership but is also currently designated as a hiking and riding trail only.

Until recently Corduroy Hills has not been accessible by service road from Bollinger Canyon and the crew has to make the long journey through San Ramon and Danville to service this area. However, a new Emergency Vehicle and Maintenance Access, which is a part of a recent acquisition, now provides access from Bollinger Canyon Road to the top of the ridge above Danville. This will provide access into the Corduroy Hills, the access is still restricted for service vehicles between the Las Trampas Ridge Trail and the Madrone Trail.

Issues

Maintenance, as well as fire and rescue access, is restricted in Las Trampas because service roads do not connect all areas of the park. This makes maintenance and rescue access much slower and more difficult.

Bicycle trail use

By District policy, bicycles are restricted to two-track service trails.

The District Master Plan restricts "mechanized equipment" from a regional wilderness except for maintenance vehicles and equipment.

Issues

Bicycles are currently only able to use the Valley Trail, Elderberry and part of Upper Trail in Las Trampas. None of these constitutes a loop trail and bicyclists

Las Trampas Regional Wilderness

- Protect Resources & Wilderness Quality
- Trail Improvements & No Bicycles in Wilderness
- Potential Small Staging Areas to Increase Access
- Bollinger Canyon Interpretive Center, More Parking

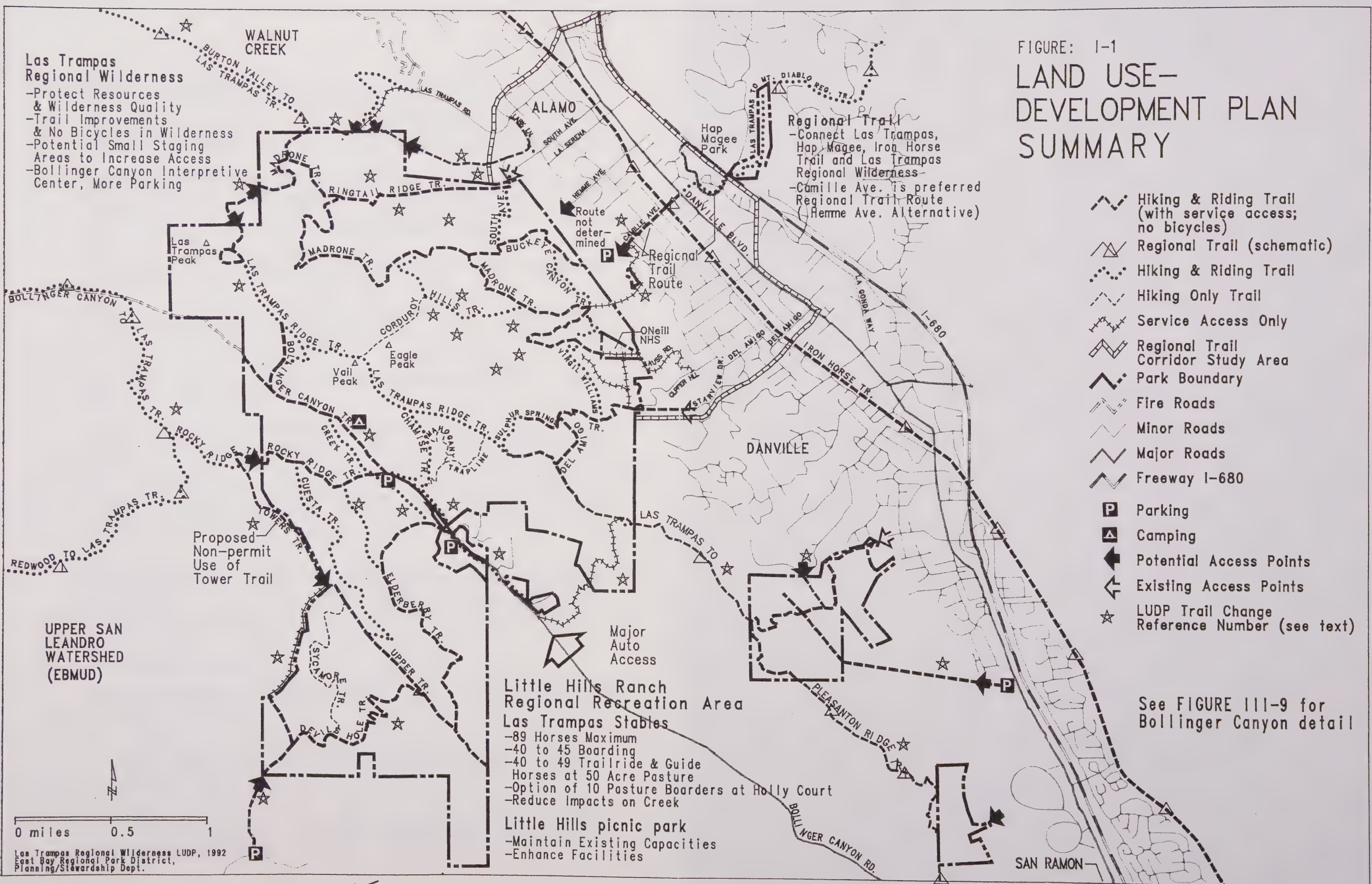
FIGURE: I-1

LAND USE- DEVELOPMENT PLAN SUMMARY

Regional Trail

- Connect Las Trampas, Hap Magee, Iron Horse Trail and Las Trampas Regional Wilderness
- Camille Ave. is preferred Regional Trail Route (Herme Ave. Alternative)

- Hiking & Riding Trail (with service access; no bicycles)
- Regional Trail (schematic)
- Hiking & Riding Trail
- Hiking Only Trail
- Service Access Only
- Regional Trail Corridor Study Area
- Park Boundary
- Fire Roads
- Minor Roads
- Major Roads
- Freeway I-680
- P Parking
- A Camping
- Potential Access Points
- Existing Access Points
- ★ LUDP Trail Change Reference Number (see text)



See FIGURE III-9 for
Bollinger Canyon detail

have to return on the same trail. The longest two-track trail, Madrone Trail, does not have legal bicycle access to it, and is therefore restricted. Thus, bicycle use in the park is extremely limited. Due to steep grades and boundaries it is doubtful that many bicycle loops will be possible in the park in the future, even with additional acquisitions. EBMUD prohibits bicycles on their adjacent properties.

There is evidence of illegal bicycle use on one-track trails throughout the park as well as illegal cross country use which increases maintenance and erosion problems in the park. Because of the steep topography and highly erodible soils, off-trail bicycle damage is quick to establish and difficult to repair.

The District has never limited bicycle use by enforcing the no-mechanized equipment provision of the Master Plan to Las Trampas.

Service, as well as fire and rescue access, is restricted in Las Trampas because service roads do not connect all areas of the park. This makes maintenance and rescue access much slower and more difficult.

Policy - Las Trampas and Little Hills Trails, Service/Emergency Roads and Access Points

The District will improve and refine the existing trail system for hiking, equestrian, service/emergency and maintenance circulation. The improvements will include repair of existing trails; minor additions of new trail links; abandonment of a few trails in sensitive areas; and some use redesignation. Acquisition of property or rights-of-way will be sought in some areas. New trail construction will be limited to maintain the wilderness quality and sense of isolation and to minimize disturbance to wildlife and other resources.

Bicycles will be excluded from Las Trampas trails in accordance with District Master Plan guidelines banning mechanized equipment because of the lack of two-track loop trails in the park, because of the sensitivity of the steep topography and erodible soils to illegal off-trail use, and to help reinforce the remote character for other users of the wilderness.

Implementation Measures

Please refer to Figure III-8 to locate trail changes. Trails are numbered because many trails do not have names.

- Additional access points into the park for visitor, emergency or maintenance access will be sought through adjacent properties. The type of use is indicated in parentheses for each new access.

Trail #1 connecting Lark Lane to South Avenue Trail to provide access to a new service road on the edge of the park, (#E). This will be an emergency vehicle and maintenance access (EVMA).

Trail #2 connecting Madrone Trail to Camille Lane. (EVMA) Repairing this old ranch road would increase emergency and fire access to the east side of the park.

Trail #3 connecting Las Trampas Trampas's three unit including Remington Loop and Southern parcel. (EVMA, user) This is the Las Trampas to Pleasanton Ridge trail on the District Master Plan.

Trail #4 connecting Danville Blvd. to Remington Loop as shown on the Danville General and Trails Plans (user, EVMA if possible)

Trail #5 connecting Cull Canyon Road to Devil's Hole (EVMA, user)

Trail #6 use of Skyway South connecting Rocky Ridge with Devils hole after it is repaired by EBMUD (EVMA)

Trail # 7 connecting Rocky Ridge Trail to Upper Trail along the top of the ridge. The District will request unrestricted use of Towers trail for hikers and equestrians from the East Bay Municipal Utility District. If this trail redesignation is granted, the duplicating portion of Upper Trail will be removed. (users)

Trail #8 connecting Las Trampas Ridge Trail to Madrone Trail. This trail is a short but important unowned link in the circulation system of Corduroy Hills. It will complete a 15 mile hiking and riding loop including Madrone, Las Trampas Ridge, Nordstrom, Gooseberry, Vista, Summit, Del Amigo and Virgil Williams trails. It will also significantly reduce driving time for maintenance circulation (maintenance user).

Trail # 9 connecting the Las Trampas Stables to Holly Court. The trail will be located through the CDF property and along the shoulder within the County right-of-way of Bollinger Canyon Road.

Trails #10 connecting Las Trampas to other regional parklands. These are other regional trails designated on the District Master Plan: Bollinger Canyon to Las Trampas Trail; Burton Valley to Las Trampas Trail ; and the Las Trampas to Mt. Diablo. These will be completed as separate projects except for trail to Mt. Diablo.

Trail # 11 along Bollinger Canyon Road, connecting the Valley trail and the intersection of the road and Elderberry trail. The Plan will restrict horses from the Bollinger Canyon Rd. shoulder between Elderberry Trail and the Valley trail to decrease auto/horse conflicts. This will be increasingly important as the roadway is used more for parking. Horse traffic will be redirected to the existing Elderberry trail which is on the west side of Bollinger Creek.

Trail #12 connecting Chamise Trail and the intersection of Elderberry Trail and the road. A new trail link off road on the east side of Bollinger Canyon Road will be an alternative route to #11.

Trail #13 Connecting Bollinger Canyon Road with Summit Trail is a EVMA possible with a new acquisition. It provides service and emergency crews with a substantially shorter route to Corduroy Hills.

Trail #14 Connecting Madrone Trail with an access trail planned through a future subdivision off Las Trampas Road.

Trail #15 Connecting the trail links discussed above (#14) with an Alamo trail easement on Lark Lane.

Trail #16 Connecting Highland Avenue to Remington Loop with an access point in a future subdivision.

- Changes will be made to the interior trail system, both the one-track and two-track trails, to improve loop circulation for short, medium and long loops emanating from staging areas and trail heads. Trails will be removed from sensitive areas and duplicate trails will be eliminated. Redesignation of some trails and additional maintenance will achieve some of these goals. Also, improvements to the interior park two-track hiking/riding/service road system will be made for fire, and rescue purposes particularly on the eastern side of the park next to the densely populated San Ramon Valley. The goals of these changes are to improve response time and enhance the fire break system. The changes which work together in strengthening the fire road system are: trails #2,5,6,13,D,E and G. All of the changes to the interior trail system are listed below.

Trail #A Part of the Ohlone Trail and a link between Ohlone and Madrone trail will be converted from a hiking only to a hiking/riding trail (this does not include the portion over Eagle Peak because of the very steep conditions). This will provide additional loop opportunity for horses.

Trails #B A few existing hiking and hiking/riding trails that run along major riparian drainages will be removed from the park and Las Trampas brochures to protect the more sensitive wildlife riparian habitats.

Trails #C will be removed because they duplicate near by trails.

Trail #D the Las Trampas Ridge Trail will be redesignated from a hiking/riding trail to a hiking/riding/service trail to aid maintenance and fire and rescue.

Trail #E connecting Madrone Trail to South Avenue Trail. This hiking and riding trail has not been maintained in many years and is almost impassible. It will be reconstructed as a two track hiking/riding/service trail to enhance fire/rescue and maintenance. It is discontinuous and requires tread construction in some areas as well as brush removal for most of its length. Its reconstruction will provide a medium length loop from the South Ave. trail head. The trail will be removed from the park brochure until construction is completed.

Trail #F Valley Trail. All or portions of this trail will be relocated farther from Bollinger Creek to reduce pollution in the creek.

Trail #G Devil's Hole Trail will be redesignated from a hiking/riding trail to a hiking/riding/service trail to provide service and rescue access.

Trail #H connecting Rocky Ridge Trail and Elderberry Trail will be constructed partially on remnants of some old trail alignments. It will provide a shorter hiking and riding loop across Rocky Ridge than is now available.

Trail #I Connecting a potential new access at Highland Avenue to the Remington Loop trail system.

- The District will designate one or more trails near the staging area and nature center as self-guiding nature trails. Markers will point out significant features which will be described in a brochure.
- The District will prohibit bicycles from all Las Trampas trails. The District-wide Master Plan restricts mechanized equipment from wilderness-designated parks in order to help achieve a quiet and non-urbanized environment. Only 3 parklands out of 47 within the EBRPD system have a wilderness designation. Bicycles are allowed in all other parks in accordance with the regulations of the District's bicycle policy. Bicycle users within the Las Trampas area are close to both Briones and Pleasanton Ridge Regional Parks and have easy access to the Iron Horse Trail and its connections to the Contra Costa Canal and Lafayette-Moraga trails.

In addition, the limited 2-track trail system at Las Trampas does not provide suitable bicycle loops, nor is there the potential to do so even with additional acquisitions. The steep topography and sensitivity of habitats increase the risk for serious damage to resources where off-trail use occurs.

- The District will prohibit horses from cross country riding and require them to remain on established trails.

- The District will remove trails closed by this plan, as is feasible, especially at intersections of trails that remain in use.
- Certain trails may be closed at times to keep visitors away from nesting or breeding populations or other sensitive resource conditions. Signs will direct users to avoid areas until they are available for use. Trails, particularly one-track trails, will be closed to equestrian use while serious erosion or other impact problems are repaired. They will be reopened when they are dry enough for use. The trails subject to the most control will be the one track hiking/riding trails leading from the major parking lot and access points because of the amount of traffic they receive and the difficulty in maintaining them. The District will enforce park closure of all trails during high fire risk periods.
- The District will determine which trails may be used by the public trail rides led by the Las Trampas Stables.
- The District will continue to realign short sections of trails that are too steep, when possible, or that contribute to erosion.
- The District will institute a volunteer trail maintenance program to supplement staff efforts.
- The District will continue to work with local agencies and neighbors to secure additional emergency, maintenance and user access points as opportunities are available and conditions change. Most will come through subdivision dedications.
- The District will encourage other agencies, particularly, Contra Costa County, Alamo, Danville and San Ramon to complete the local trails which would link their facilities to Las Trampas.

c. Las Trampas to Mt. Diablo Regional Trail

Background

The Las Trampas to Mt. Diablo Regional Trail is the major regional east west linkage between Las Trampas Regional Wilderness and Mt. Diablo State Park, two of the most important open space parklands in Central Contra Costa County. A key component in the Contra Costa County General Plan Recreation Element since 1972 and vital feature of the East Bay Regional Park District's Trails Master Plan, acquisition of right-of-way for this trail corridor has been ongoing since 1973. The easterly portion of the trail (Mt. Diablo State Park to Highway I-680 and the site of the future Magee Park) was opened in 1984 and currently accommodates hikers and equestrians, provides access to Mt. Diablo State Park at the Macedo Gate entrance, and also makes connections to local trails and parks, including Danville's

Oak Hill Park. It currently terminates at the intersection of La Gonda Way and Highway I-680. Upon completion, this regional trail will provide hikers and equestrians access from local neighborhoods with a regional trail connection to Las Trampas Park, Mt. Diablo State Park and the Iron Horse Trail, as well as access to local parks, including Oak Hills Park and Magee Park, a shared park facility between the communities of Danville and Alamo.

The Resource Analysis identified a Trail Corridor Study Area within which the new section of the trail would be located between I-680 and Las Trampas. The new section will be different from most regional trails within the District as it will travel through an existing residential area rather than undeveloped terrain. Due to the extent of existing development in this area, the only feasible alternative is for the trail to be located within a public road right-of-way.

All streets within the Trail Corridor Study Area between Del Amigo Road and Las Trampas Road were evaluated and compared for their feasibility and suitability as the regional trail route. Two riparian drainages were also evaluated as potential trail routes but were rejected primarily because of the lack of public ownership and insufficient space. An analysis of the Study Corridor determined that Camille Avenue followed by Hemme Avenue were the most suitable for the regional trail based on the characteristics of each street, including such criteria as directness of route and sight distances. (See Appendix F, Regional Trail Route Assessment.)

Most of the proposed new trail, to be located within existing Camille Avenue public road right-of-way, is administered and maintained by the Town of Danville or by Contra Costa County. Some acquisition will be required, however, between the end of the public road and Las Trampas. This could be through a lease, subdivision dedication or purchase.

The public right-of-way includes the area of the paved roadway as well as a varying width above the curb or beyond the edge of road.

On La Gonda Way a 10 to 15 foot space is located above the curb on the north and south side of the roadway under the freeway.

On Camille Avenue, a sidewalk is located within a five foot right-of-way on the southern side of the road. On the northern side of the road the area above the curb is 10 feet for most of the distance narrowing to 5 feet near the western end of the road.

On Hemme Avenue sidewalk treatment varies as well as street widths and curb treatment. One area is very narrow. Public ownership ends at Sonoma Way (West).

Under existing law, equestrians are allowed to use the public right-of-way of all streets in addition to vehicles, pedestrians and bicycles. Equestrian use of this

section of the trail is expected to be low with about two horses per weekday and about 5 to 10 horses per weekend day.

The majority of current users of the eastern side of Las Trampas are local residents. The District has successfully provided several trail access points in this area as subdivisions have occurred. Existing trail access occurs at South Avenue and Del Amigo (Starview). An additional local access trail is planned within a subdivision at the end of Las Trampas Road. This will tend to reduce concentrations of local use on the regional trail route.

Issues

Pedestrian and especially equestrian access between Las Trampas and Mt. Diablo is difficult without a completed trail due to the lack of signing to direct users and because there is no convenient public access to Las Trampas near the end of the existing trail route.

Regional Trail options are limited in the Trail Corridor Study Area due to existing residential development.

Policy

The District will complete the Las Trampas to Mt. Diablo Regional Trail for hikers and equestrians to link Mt. Diablo State Park and Las Trampas as well as Magee Community Park and the Iron Horse Regional Trail.

Implementation Measures

- The preferred alternative route for the regional trail will run along La Gonda Way in the Danville maintained road right-of-way to the eastern edge of Hap Magee Park. It will cross Magee park in accordance with the park master plan. A staging area, water and restrooms, located within the park, will be available to trail users. The trail will cross San Ramon Creek on a bridge to be constructed by EBRPD. This bridge will cross the creek to a county-owned corridor on Camille Lane which extends to Danville Blvd. (The portions of the trail through Magee Park to Danville Blvd. have been evaluated as part of the Magee Park Master Plan and are not a part of this project.)
- At Danville Blvd. the trail will cross the Boulevard with a crosswalk to Camille Avenue. Four warning signs will be installed on Danville Blvd. at a distance of approx. 500 feet and 100 feet north and south of Camille Avenue to warn motorists of the crossing. Environmental certification for this crossing was approved by the City of Danville in 1991 and it is not a part of this project.

- The roadway along both sides of Camille Avenue (between Danville Blvd. and the Iron Horse Trail) will be striped as a Class II bicycle lane to provide good bike access between Magee Park and the Iron Horse Trail. (approx. 430 feet). Striping on the existing pavement will be a six inch solid white line approximately 5 feet from the face of the curb and parking will be restricted within the area. This could affect four homes. Their closest alternate parking will be on an adjacent street, Daniel Drive or on Camille Avenue west of Daniel Drive.
- Camille Avenue is designated as the preferred trail alignment for the regional trail because it is the most direct continuation of the existing route, passes the fewest number of existing homes and has county right-of-way for the whole length of the roadway. It will be the easiest route for the public to understand and use because it is straight, has good sight lines and the right-of-way is relatively consistent in width. The trail will be placed within the public right-of-way. Pedestrians are expected to use the sidewalk and equestrians, the roadway. (See Appendix F for Regional Trail Route Assessment.)
- At the end of the public right of way the District must acquire a right-of-way through private property and the exact route is not determined. The goal will be to provide a two-track trail with a suitable gradient for emergency and maintenance vehicles to reach the Madrone Trail in Corduroy Hills.
- Regional trail users will not be limited to using the designated trail. Park brochures will show other access points into Las Trampas such as the trail-heads for the South Avenue Trail, the Del Amigo Trail and the trail from Las Trampas Road. Maps will also show the Danville and Alamo street systems to these trails as well as the Iron Horse Trail.
- Should the Camille route not be feasible, Hemme Avenue will be the designated Regional Trail route.

d. Public Transportation

The Bay Area Rapid Transit District (BART) forms the backbone of the regional public transportation system in Contra Costa and Alameda Counties. The nearest BART station nearest to Las Trampas is in Walnut Creek, although new station expansions in Castro Valley, Dublin and Pleasanton (and eventually Livermore) are expected to begin service in 1995.

Various bus agencies provide transportation links between BART and the parks themselves. On the weekends, BART Express Bus Route D serves the south I-680 corridor from Walnut Creek BART to Dublin. Some Danville Blvd. and San Ramon Valley Blvd. stops which could potentially serve Las Trampas park users include; Las Trampas Rd., La Serena Ave., Hemme Ave., Camille Ave., Hartford Rd., Del Amigo Rd. and Sycamore Valley Rd. It also stops at the intersection of Crow

Canyon and Bollinger Canyon Rd.; however, this bus stop is about four miles from the Bollinger Canyon Rd. parking lot.

County Connection Routes 121 and 122 also serve the I-680 corridor along Danville and San Ramon Valley Blvds. using the same stops as BART Express Route D.

BART will be working with local transit authorities to expand bus service along the I-580 corridor when the new stations are completed. The East Bay Regional Park District's "Parks Express" program provides pre-scheduled transportation to all of the regional parks for non-profit, "special population" groups including seniors, physically and emotionally handicapped, poor, single parents, latchkey children and minorities. The program operates from mid-June through October and groups may reserve either a bus and/or a wheelchair van.

Issues

There is no direct public transportation access to Las Trampas.

Policy

The District will work with local transit authorities to extend service to Las Trampas and will continue the Parks Express outreach program and inter-agency communication.

Implementation Measures

- The District will encourage bus routes which will serve the park entrances and trail access points and provide adequate turn around space, where feasible.

3. Recreational and Interpretive Facilities

a. Little Hills picnic park

Background

The reservation picnic park at Little Hills Regional Recreation area provides service for up to 1400 people at a time during the picnic season from May 1 to October 31. It includes seven picnic sites which may be reserved by seven groups at one time. The park is not open to drop-in use. The Resource Analysis established that the site is at its maximum operating capacity for parking and user levels.

The picnic park is enclosed with controlled access. It is set in a shady draw of Rocky Ridge. Its small rustic buildings add to the feeling of an old fashioned ranch picnic. Both the utilities and parking are in functioning order. The facility is operated by a concessionaire. It is well established and has many return users.

It is a financially successful operation, generating income for the District and to its major maintenance fund.

Issues

Due to many different additions, the design quality, particularly of the buildings, could be improved. Many buildings will need replacement or major renovation because of dry rot and other problems. The pavement is uneven in some places.

Riparian vegetation is missing along Bollinger Creek by the ball field creating a lack of privacy for park users. The parking lot is very close to the creek.

An open burro paddock between the residence and stables store contribute to creek pollution if used during the rainy season.

In the past, neighbors have complained about traffic and concerns about alcohol use.

Policy

The District will evaluate the overall design of the picnic facility to improve the site with strategic changes that follow a comprehensive plan.

The District will maintain and enhance the reservation picnic facility to serve the existing maximum capacity of 1400 visitors.

Implementation Measures

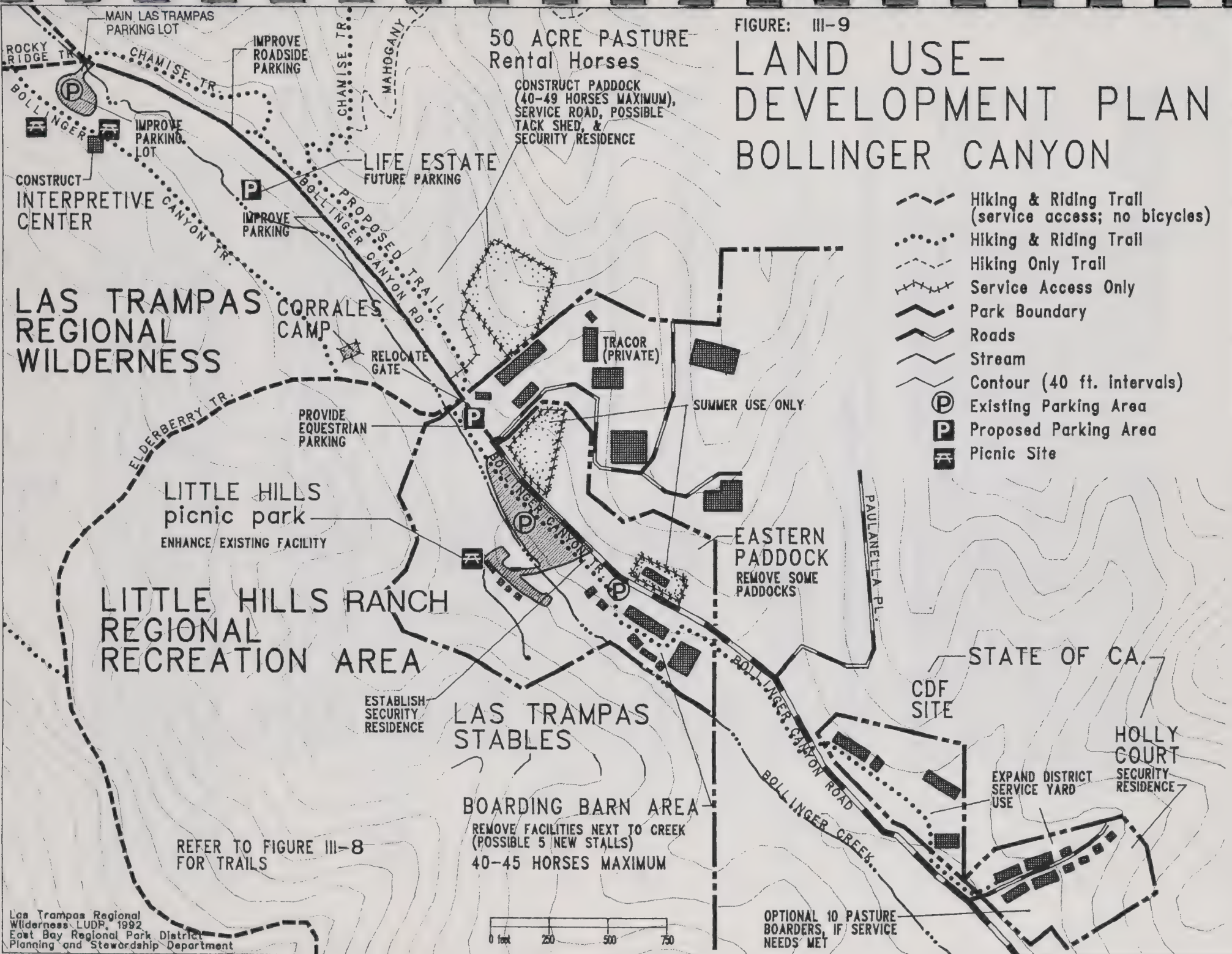
- After the LUDP is adopted and before major maintenance is begun a Capital Improvement Plan (CIP) will be prepared to see if reasonable design changes can improve: resource protection (mainly trees), recreational use, aesthetics and operations/maintenance (including delivery and turnaround.)
- The Capital Improvement Plan and operations programs will be designed according to the following criteria:

Protection of Natural Resources

- Protect existing trees with proper setbacks for grading and paving. Minimize tree cutting, especially of oaks, exotics and specimen trees.
- Monitor slopes for erosion. Repair erosion with planting, realignment of pathways and stairs, and paving of pathways.
- Re-establish riparian vegetation along creek.
- Protect the creek. No new buildings, paving or other structures will be constructed within 50 feet of the edge of the creek. Existing buildings that

FIGURE: III-9

LAND USE— DEVELOPMENT PLAN BOLLINGER CANYON



need to be replaced will be individually evaluated. When feasible, buildings within 50' will be moved farther away. (Refer to policy in Hydrology Section.)

- Limit size of lawn area. Utilize drought-tolerant grasses to limit water use. Limit fertilizers and herbicides per Integrated Pest Management policy.
- Continue to monitor trout pond water quality. Pipe overflow from springs into trout pond to: relieve draw from tanks; provide running water system through pond for improved water quality; put overflow water into Bollinger Creek at a higher elevation for visual and wildlife enhancement.
- Periodically monitor the site for rare, threatened or sensitive wildlife species and take necessary protective measures.
- Use the burro paddock only during the summer and clean out prior to the rainy season.

Capacity/Size

- Do not increase maximum capacity of facility (number of persons served and number of automobiles parked).
- Do not expand overall area of the park, except for existing terrace above "Lookout Ridge" picnic sites for additional recreational or operational uses.

Openspace Area/Aesthetics/Circulation

- Upgrade the aesthetic quality of the park by taking advantage of existing features, such as trees, pool, trout pond, etc. Consider enlarging pond and revealing it with a lower or see-through fencing so it will be a major visual feature of the park. (Do not enlarge pond until overflow from springs is piped into the pond.)
- Improve paved openspace areas for gathering, recreational circulation, operational circulation (including delivery) and for aesthetics. Particularly improve irregular grades for improved circulation, but protect existing trees. Do not substantially increase paving area of park to help retain natural quality.
- Screen undesirable facilities such as chlorine tanks.
- Improve user circulation of walkways to picnic sites, if possible.

Building Structures

- Consider reasonable relocation of buildings (especially central store and bathroom) that require replacements if relocation will improve openspace, circulation and use and maintain or improve functional relationships.
- Establish consistent design style for future site improvements such as fencing, railing, steps and small structures.
- Design new buildings and structures to be in scale with existing structures. Design new buildings to enhance, but be consistent with, the existing rustic ranch theme.
- Do not substantially increase the footprint (square footage) of the park buildings.
- Improve capacity and location of storage areas and increase office space.

Utilities

- Underground overhead utilities wherever feasible.
- Connect to municipal water and sewer lines when possible. (See agreement with Central Sanitary).
- Regulate water consumption from springs. Increases in water use must have appropriate District approval.
- Improve water quality from springs.

Design and Construction Priorities and Review

Protection of park resources will be the first consideration in Designs and Layouts. Whenever possible, public use facilities will be given priority of space, location, etc. over service facilities.

b. Las Trampas Stables

Background

The Las Trampas Stables are located on two separate parcels separated by Bollinger Canyon Road about one mile south of the Las Trampas parking lot. For purposes of discussion, the three acre area located between the road and Bollinger Creek on the west is called the Boarding Barn Area and the three acre paddock across the road to the east is called the Eastern Paddock. (See Figure III-9.) The stables have been operating for many years and provide full equestrian

services including boarding, trail rides for the general public, two arenas, lessons and a store. A maximum of 131 horses are accommodated in the summer. Current winter time capacity is: 40 boarders in boarding barn, ponies, 43 rental and guide horses and 31 pasture boarders. (The term "pasture boarders" is a misnomer as these horses do not graze in a pasture but are fed by the operators.)

The public trail ride service is very popular and many potential riders are turned away. The barn boarding is full in winter but loses patrons in the summer. Pasture boarding stays at capacity most of the time with a waiting list.

Horseback riding and equestrian facilities are consistent with the wilderness designation of the park as disclosed in the District Master Plan. The Las Trampas Stables are situated in a very good location for access to many miles of trails in both Las Trampas and the adjacent Upper San Leandro Watershed (EBMUD). Structural facilities are in good condition. Considerable site and operational improvements have been made within the last few years, including: manure haul program for the boarding barn area; moving the burros paddock away from the creek; and installing a fence along Bollinger Creek. Also the size of the Eastern Paddock was substantially reduced in size to control weeds, improve appearance and allow natural vegetation to grow. The former 50 acre pasture near Mahogany Trail was removed from grazing to improve visual quality and to decrease weed infestations.

District stable operations in general, are labor intensive and require dedicated operators. They do not generate a large income to the District but provide a public service through the trail rides and an opportunity for young people to volunteer to work in a wholesome environment. Las Trampas operators are conscientious service oriented and maintain facilities according to the standards set by the District. Boarding provides supplementary income, particularly in winter months when there are no trail rides. An audit was undertaken by EBRPD in March and April of this year as a part of the planning process. Many operating scenarios were evaluated. The plan recommendation is based on one of these alternatives.

The District is negotiating with the state for use of Holly Court. It is an 8 building subdivision adjacent to the existing service yard. The District could accommodate the crews of several nearby parklands that don't have convenient facilities.

Issues

The Resource Analysis identified a number of environmental, user and visual issues at Las Trampas Stables. The facility is crowded because of the small acreage of the site and the high horse per acre density or ratio, especially in Eastern Paddock. The ratio is much higher at Las Trampas than in other EBRPD stables. The high density results in some user conflicts. The lack of open space and screening vegetation contribute to a crowded, bare, non-park like appearance that is visually displeasing to many visitors.



The greatest environmental problem, however, is the pollution from the stables which is washed by the rains into the adjacent Bollinger Creek. This is described in the Hydrology and EIR sections. Pollution levels exceed health standards set by the Public Health Department and the Regional Water Quality Control Board. The Boarding Barn facility is located at the edge of Bollinger Creek. This area has a manure haul program which reduces the sources of pollution into the creek, but sheet flow during the rainy season continues to drain pollutants into the creek. Eastern Paddock, with the larger number of horses, is across Bollinger Canyon Road, but drains directly into the creek through culverts under the road and has no manure haul program.

The Las Trampas Stables facility has many attributes as described above. However, it was built on a marginal site prior to environmental standards. In its present state it creates a significant adverse effect upon the environment. This presents a difficult choice for the East Bay Regional Park District. Basic options are: 1) continue the status quo and continue pollution into Bollinger Creek; 2) install a costly treatment facility if limited space will permit; 3) relocate the facility at considerable expense if suitable areas exist or 4) reduce the size of the existing facility and thereby reduce contamination. Reductions could be handled in many ways, including reducing the number of horses and reducing the operating season.

Regarding choice 2), alternate sites have been studied, but no present acreage within Las Trampas is suitable or better for the relocation of the entire facility.

Policy

The District will improve the Las Trampas Stables to protect natural resources, particularly to decrease contamination of Bollinger Creek; to decrease operational and user problems and conflicts; and to enhance the use and visual aspect of the facility, making it more compatible with the Las Trampas park landscape quality.

The District will retain as many horses at the facility as is feasible and acceptable to continue providing diverse equestrian services, while protecting park resources.

The District will continue to evaluate new Las Trampas Park acquisitions and potential opportunities for leasing nearby properties for more spacious sites that could be used for equestrian purposes with fewer environmental consequences.

Implementation Measures, Las Trampas Stables

- Summary A total of 89 horses will be quartered at the Las Trampas stables on a year-round capacity. Forty stalls will be maintained at the boarding barn (pipe pens, isolation corral and pony pen will be removed.) Five additional stalls may be added. Two corrals within Eastern Paddock will be used in the summer only. A two and one-half to three acre paddock in the 50 Acre Pasture will be established for up to 49 trail ride and guide

horses. If five extra boarding stalls are constructed in the Boarding Barn Area, the number of rental houses in the 50 Acre Pasture will be reduced to 40. This preferred alternative is the lowest number of horses that is economically viable for a concession operation which provides the greatest service to the public. The lowest number of horses was selected because of difficult site conditions and the desire to maximize protection of resources. The reduction in total numbers of horses will be accomplished through the elimination of "pasture" boarders, although nearby Holly Court could quarter 10 pasture boarders as an additional option. (Appendix F shows the District's economic assumptions of the plan. See figure III-9.)

Boarding Barn Area

- Forty horses will be accommodated in the Boarding Barn. If boarding demand increases, an additional five stalls could be added through a Capital Improvement Plan although nine trails ride horses would be removed.
- The isolation corral, pony paddock and pipe pens will be removed because they are close to the edge of the creek.
- Appropriate native and historically used plants will be planted and irrigated to screen and visually improve the appearance of the stables and blend the facility into the park landscape.
- Gray water from the wash rack will be piped into the septic system or holding tank.
- A toilet building with flush toilets will be constructed if future service is provided.
- A hot walker will be installed, through a Capital Improvement Plan, if space is available.
- For any capital improvement changes or amendments to the plan, a fifty foot setback from the edge of the creek will be observed for any new buildings. If existing buildings need renovations, the District will try to move them farther from the creek, if feasible. No horses will be stabled within 50 feet of the edge of creek.

50 Acre Pasture

- A portion of this area will be converted to the headquarters for the rental string portion of the Las Trampas Stables concession. This will reduce the number of user conflicts at the Boarding Barn area and will minimize travel along Bollinger Canyon Road for trail ride users.

- Parking along Bollinger Canyon Road or just off the road, as discussed in the parking section, will be included to serve the trail rides below the paddock.
- Two flat areas off of the road will be available for tie rails, a small saddle-up corral (north of the culvert under the road); a tack shed and space for a security trailer (south of the culvert).
- Water will be piped, and possibly pumped to the paddock.
- A two and one half to three acre paddock will be established within the former 50 Acre Pasture. This paddock will provide year-round quarters for a maximum of 49 trail ride and guide horses (or a maximum of 40 horses if additional stalls are constructed at the Boarding Barn Area.)
- The paddock will be located at the southern edge of the 50 Acre Pasture, adjacent to TRACOR. It will be some distance up the hillside on the nose of the ridge to locate the paddock substantially further away from Bollinger Canyon and other drainages than the equivalent Eastern Paddock is now located. This distance will allow rainwater to percolate and filter through the soil prior to reaching Bollinger Creek. The facility will be visible from surrounding ridges, but it is adjacent to existing developed facilities.
- A two-track trail will be constructed from Bollinger Canyon Road to the lower edge of the paddock to provide vehicle access. Also, the site will be graded to provide level terraces on the sloping terrain for increased safety of horses and operators and to control erosion. Constructed swales will prevent up hill areas from draining across the paddock.
- Parking along Bollinger Canyon road or just off the road, as discussed in the parking section, will be included to serve the trail rides below the paddock.
- Two areas along the road will be available for tie rails, a small saddle-up corral (north of the culvert under the road) , a tack shed and space for a security trailer (south of the culvert).
- Water will be piped, and possibly pumped to the paddock.

Eastern Paddock

- For operational flexibility, the paddock next to TRACOR's entrance and a small paddock around the hay barn will be available in the summer (dry season) for uses such as mares and foals or sick animals. Former paddocks between these will be removed. Paddocks will be cleaned out before the rainy season. This area will be used only for horses within the 89 horses maximum capacity.

- Planting will be installed and irrigated for visual screening.
- The remainder of the 15 acres of this area will be returned to grassland area and grazed as needed to reduce fuel levels. This will be short term grazing only. Minor fencing adjustment will be made to the area to enhance resource protection.

Holly Court

- As an additional option, if service needs are met and plans are approved by the State, the District would use a one-half acre flat area for a paddock which would accommodate up to 10 "pasture" boarders. This area is located on the southern side of the street behind the two buildings closest to Bollinger Canyon Road. No stalls will be constructed although a wind and rain shelter would be possible.
- The paddock will be fenced and minor grading will prevent upland areas from draining across the area. This area will drain overland rather than into the Holly Court storm drain system. This will allow rainwater to percolate and filter through the soil before reaching Bollinger Creek. A regular manure cleanup program will be required. Manure will be stored in a covered area and regularly hauled away for safe disposal.
- Irrigated screen planting and/or solid fencing will be installed to screen the facility from the south.
- Equestrians will travel between Holly Court and the Boarding Barn Area within the public right-of-way on Bollinger Canyon Road for a distance of less than 1000 feet. This equestrian use of the shoulder of the road is already allowed by state law. The trail will cross the road where visibility is good. An alternate route through the CDF facility and/or private adjacent land may be used to reduce the distance traveled along Bollinger Canyon Road. (See the route on Fig. III-9.)
- The District will continue to monitor pollution levels in Bollinger Creek. If pollution levels cannot be lowered to legal levels, The District will take additional steps to meet applicable laws and regulations. This could include converting the stables into a summer-only trail ride string. Conversely, if controls are effective in reducing pollution levels, additional pasture boarders may be considered.
- The District will continue to work in cooperation with the stables concessionaire and regulatory agencies to improve creek conditions.
- The District operates the stables with a concessionaire and will continue to do so. Some of the implementation measures mentioned above cannot be

enacted unless specified by contract. Thus, changes will be made to the contract between contract periods. Prospective concessionaires will competitively bid on the new terms in accordance with District procedures. The District will determine when, in the life of the 20 year plan, changes will take place. Funding, priority of capital projects, and the requirements of regulatory agencies will be determining factors.

- Some of the changes of this plan, will be implemented in a slow, phased process to least disrupt use. Many of the reductions of numbers could take place through attrition.
- Appendix G shows assumptions behind this plan. A 1991 audit of the stables and alternative strategies, demonstrate that the plan is economically viable for a contract operator.

c. Las Trampas Recreation Unit

Picnicking

Description

Picnic sites including tables and Barbecues are located in two areas by the existing parking lot at the end of Bollinger Canyon Road. Two tables are located at the start of the Chamise Trail at Bollinger Canyon Road.

Issues

There are only about 12 picnic sites in Las Trampas.

Policy

The District will provide a limited number of family picnicking sites within the Staging Unit of Las Trampas Regional Wilderness. Due to the extensive group picnic facility at Little Hills, no group reservation sites will be developed.

Implementation Measures

- The District will increase the number of picnic sites to approximately 50. These will be located within the Staging Unit, south of Rocky Ridge Trail. Most will be associated with the future interpretive center, but a few may be associated with the Life Estate site and the 50 Acre Pasture as well as being scattered along the creek between the parking lot and Corrales Camp.
- The sites will contain tables, barbecues and trash containers. Drinking fountains and toilets will be within walking distance. Tables will be established as far apart as possible for a quiet experience, although they may be closer together at the interpretive center.

- The sites will have shade trees. A tree planting program, using native species, may be initiated to establish trees well in advance of picnic site construction.

Interpretive Center

Background

East Bay Regional District provides interpretive services to help educate park visitors about the importance of the natural environment, cultural resources and how to protect them. The program is directed toward individuals, families and school and youth groups. The interpretive staff organize programs from the six visitor centers located throughout the District. Most of these programs are focused on the parks in which the center is located. Infrequent programs for Las Trampas are provided by the Sunol Nature Center staff. There is continuing demand for interpretive programs at Las Trampas.

The Draft Interpretive Master Plan and the 1988 AA Bond Measure identify a wilderness interpretive center in Bollinger Canyon at Las Trampas. Interpretive facilities are appropriate in the Staging Unit of a Regional Wilderness parkland according to the District wide 1989 Master Plan.

Las Trampas is ideal for interpretation because of its outstanding resources, particularly the geology, paleontology and vegetation.

Issues

More public education of park uses is needed to increase awareness of sensitive and fragile resources, the value of protecting resources and to demonstrate appropriate park use.

Policy

The District will establish an interpretive center at Las Trampas to promote awareness and stewardship of the natural and cultural environment.

Implementation Measures

- The District will construct a small Interpretive Center which will provide for public contact, education and a meeting site for programs. It will help educate the general public and is expected to generate a group of park "partners" who will feel ownership of the park and will serve in a volunteer capacity to help protect it, similar to the "partners program at Sunol and Black Diamond Mines.

- The interpretive center will be located south of the existing parking lot on the west side of Bollinger Creek nestled into the hillside at the toe of Rocky Ridge. This site is selected because of its good road access as well as good trail access to both ridges. A 3500 square foot building will include space for entrance foyer and reception center, exhibit space, meeting room, office, restrooms and storage space. It may be two stories built into the hillside. Picnicking sites will be scattered around the center. Parking and drop-off will be at the existing parking lot, and across the creek at the old Life Estate area and along Bollinger Canyon Road. Service access will be provided to the building and disabled parking will be convenient. (Refer to Geotechnical Report for design criteria.)
- Related interpretive services will be included, such as information panels, interpretive brochures, self-guiding nature trails and interpretive walks.

Camps

Background

Two existing camps are located in the Bollinger Canyon area of Las Trampas, Corrales Camp near Elderberry Trail and Buckeye Camp near Valley Trail. Buckeye Grove does not have water service, and is located in important habitat area. The District allows auto access to some of its camps. Often there is a two car limit. Two cars are allowed to Buckeye Grove Camp and a total of about 30 equestrian rigs may be driven to Corrales Camp, which is near Bollinger Canyon Road. Public vehicles would not be allowed into interior areas of the park because of narrow, steep and winding roads.

Over the years, there have been many requests for additional wilderness camping facilities, especially remote camps that are more isolated from automobiles and users.

The Corduroy Hills area of Las Trampas is adjacent to the highly populated San Ramon Valley. Residents have expressed concern about the potential fire hazard of camping.

Issues

Las Trampas has very steep topography and limited access which would make it more difficult to maintain, serve and respond to emergencies at camps in the interior of the park. The District usually allows two vehicles per group to drive to a site. This would not be advisable at Las Trampas due to the steep topography, long distance and limited access.

Policy

The District will continue to provide youth group and equestrian overnight camps within Las Trampas. It will not, however, add additional camps into the interior of the park because of the remoteness of the sites, difficulty serving them and the proximity of urban areas.

Implementation Measure

- The District will continue to provide overnight camping at Corrales Camp and Buckeye Grove Camp. The District will evaluate new acquisitions for the possible relocation of Buckeye Grove Camp.

4. Access Facilities for the Disabled

Background

The majority of facilities at Las Trampas and Little Hills were constructed before a policy providing maximum recreation opportunities for people with disabilities was established by East Bay Regional Park District. At this time only the toilets at Little Hills picnic park and some picnic sites are wheelchair accessible.

Las Trampas contains some of the steepest terrain and trails found in District parks. Some trails rely on step ramps and steps in particularly steep terrain. No trails are wheel chair accessible.

Policy

The District will implement Title 24 of the California Disabled Access Regulations and other applicable regulations and provide access at major parking areas and developed recreational facilities.

Wherever feasible and practical, the District will upgrade facilities outward from the parking areas and recreation facilities to increase wheelchair access.

Implementation Measures

- The District will develop and maintain all new improvements and renovations of park facilities to provide access for persons who are disabled. This includes the major parking areas and associated picnic areas and the Interpretive Center at Las Trampas. A disabled access toilet will be installed at the stables facility to serve trail rides.
- The District will produce and distribute publications which describe the accessibility of the parklands. These will be available at an accessible brochure box at the parking lot at Las Trampas and Little Hills.

- When possible, the district will remove wheel chair impediments in more remote areas.

5. District Service and Security Residence Facilities

Park Maintenance

Background

Maintenance for Las Trampas is provided from a service yard on Bollinger Canyon Road about one mile from the main parking lot, at the California Department of Forestry (CDF) Forest Pest Management Center. The District is currently negotiating with the State for use of a larger part of the CDF facility for Las Trampas and other District uses and for Holly Court. Holly Court is a small 8 building subdivision off of Bollinger Canyon Road next to the existing service yard which was originally built as a part of a Nike missile base. Both the CDF and Holly Court sites have been used for a variety of governmental purposes including housing for California Conservation Corps. Uses are often seasonal with periods of heavy and light use.

The picnic park and stables of Little Hills Regional Recreation Area are operated by concessionaires. They function with various storage sheds in lieu of dedicated service yards.

The trails crew maintaining regional trails within the Trail Corridor Study Area operates from a service yard in Walnut Creek.

Issues

The Las Trampas service yard building and fenced outdoor yard is leased from the state of California and are too small for current needs.

The Las Trampas service yard is convenient to paved roads and the center of the park. A new emergency vehicle and maintenance access trail between Bollinger Canyon Road and a trail along Las Trampas Ridge (Trail #13 on Figure III-9) has been obtained as a part of a ridgeline acquisition. and has recently been opened. However, park service roads do not connect Bollinger Canyon to either Devils Hole or to the Madrone Trail near Las Trampas Park (see trail section).

Asbestos has been found in the buildings at Holly Court.

Policies

The District will establish a permanent site for the Las Trampas maintenance yard and upgrade and enlarge the facilities so that they will adequately serve the park. The District will also provide space for other service yards and offices for various

District functions on land leased from the State if sufficient space is available. The District will not exceed existing building and parking capacities for these facilities.

Implementation Measures

- Upon completed negotiations with the State, the District will lease more space in the CDF facility and also lease adjacent Holly Court. The District will relocate the Las Trampas service yard to larger quarters within these areas. It will use existing buildings and developed outdoor space for essentially the same functions for which they have been used in the past. The service yard will include offices, shop, tool room, kitchen, storage and restrooms. Parking and a fenced outdoor space for storage of materials will be close to the building space. Other park and trail maintenance facilities will use other vacant offices and yards in a similar fashion. The specific park or trail crews may change over time as conditions and needs change within the District. Maintenance improvements will be made on the facilities as needs warrant and budgets permit. A minimum of asphalt paving may be added to provide more usable outdoor space. Yards may be fenced for security purposes. The District will abide by all applicable regulations regarding existing asbestos.

Security Residence

Background

There are no security residences within Las Trampas, Little Hills or the Regional Trail Study Corridor except for two trailer residences at the Las Trampas Stables.

A wood frame residence is located at the picnic park next to the parking lot along Bollinger Canyon Road. It is currently under control of the Little Hills concessionaire, per the operating agreement, and is not used for security purposes CDF maintains two security residences at Holly Court.

Issues

With no established security resident along Bollinger Canyon Road there is no convenient person designated for off hours operating and emergency responsibilities. Thus, the park crew must stretch its hours to cover longer time periods.

Policies

The District will provide a security residence in Bollinger Canyon to provide off hours responsibilities for Las Trampas and Little Hills.

Implementation Measures

- The District will revise the contract for Little Hills Picnic Park when it expires, so that the resident living in the house by the Little Hills parking lot assumes off hours and emergency security residence responsibilities to help protect both Little Hills and Las Trampas.
- The District will continue the use of one or more security residences at Holly Court when it leases this area.

6. Utilities

Water Service

The parking lot, Corrales Camp and service yard are served by a municipal water line emanating in Danville. This line also services CDF, Holly Court and Tracor. A pump and tank for this system are located in Remington Loop. Holly Court has 3 fire hydrants but CDF has none.

Little Hills picnic park and the Las Trampas Stables are served by water tanks above the picnic park. The tanks are fed from developed springs on Rocky Ridge. The District owns springs above the Eugene O'Neill National Historic Site which feed water tanks used by the National Park Service. There are other undeveloped springs in the park.

Sewer Systems

The Las Trampas parking lot, the group camps and stables are served by chemical toilets. A two-mile long leach field or "sieve drain" located along Bollinger Canyon Road serves CDF, the service yard and Holly Court, but current use is restricted. EBRPD has an agreement for future use of this line for Little Hills. The Central Contra Costa Sanitary District is currently monitoring the system and adjacent ground water because of low level contamination. It is studying other alternatives for sewer service. This could include installation of a limited capacity sewer line to serve only pre-existing occupants of the canyon.

There are two septic tank/leach field systems at Little Hills. One of these also serves the residence at Las Trampas Stables. The toilets on these systems are flush toilets.

Electricity and Telephone

The service yard and Little Hills are served by overhead electric lines which extend throughout the park to private property on the northern side. Water pumps in Remington Loop are served by electricity. The service yard, Little Hills, CDF and residences in Holly Court currently have telephone service.

Refer to the Resource Analysis for a more detailed description.

Issues

Water pressure and quantity of flow from the water line in Danville is low for the existing facilities including Corrales Camp, main parking lot and service yard. Water from developed springs on Rocky Ridge is generally adequate but slows during the summer. With these two systems water supply for public use and operations in Bollinger Canyon must be carefully managed, especially in the summer because of the limited storage capacity, small line size and limited pressure. Firefighting supply is further limited because storage tanks take a long time to refill once they are drawn down.

Only chemical toilets are available for public use at the main parking lot and Las Trampas Stables. (Flush toilets are available at the central area of the picnic park). Flush toilets are more desirable for park use, particularly at major facilities operational costs to serve chemical toilets are high.

Policy

The District will remove unsafe utility conditions, upgrade utilities, whenever possible, and will provide drinking water and restrooms for park visitors and operators. Public and service buildings will be served by appropriate utilities. Water will be provided in appropriate locations for livestock and wildlife.

The District will connect to municipal utilities, if feasible and will encourage maintaining the rural quality of Bollinger Canyon by supporting non- growth inducing infrastructure in Bollinger Canyon.

Implementation Measures

Water Service

- Springs along Rocky Ridge Road will be developed to supply a rehabilitated or new 10,000 gallon water tank along the trail. This will supply the future interpretive center and will serve as an additional fire fighting supply. Water for public use will be chlorinated. A sprinkler system will be installed in the Interpretive Center.
- The District encourages the improvement of the municipal water system from Danville in order to increase water flow and pressure to better serve the Bollinger Canyon facilities and firefighting.
- If parking areas are developed on the eastern side of the park in Alamo, Danville and San Ramon, water will be provided, if feasible, for drinking fountains, restrooms and fire hydrants. If municipal water is not feasible

and spring water is available, the District may establish a 10,000 gallon water tank to supply fire fighting and possibly user needs.

- Substantial water is being taken from the springs above Little Hills for the operation of the picnic park and stables. Plans for additional water uses will be coordinated between Little Hills and Las Trampas operators prior to implementing increases.
- Springs within Las Trampas will be developed for wildlife and livestock grazing where appropriate.
- Water will be provided to the 50 Acre Pasture for paddock and possible residence.

Sewer, Wastewater and Drainage

- The District will operate facilities with chemical toilets, septic or holding tanks and existing or future municipal service.
- Permanent toilet building will be constructed at the Boarding Barn area of the stables, the Interpretive Center and at improved parking areas, in Bollinger Canyon when feasible.

Electricity and Telephone

- Electricity and Telephone will be extended to the Interpretive Center. A public phone may be provided at the major staging area.
- Buildings at Holly Court and CDF will have electrical and telephone service.
- The toilet building at the stables and possible trailer at the 50 Acre Pasture will be served with electricity.
- If permanent restroom facilities are established on the east side of Las Trampas, they will be served by electricity. Telephones may be included for service/emergency use. Public telephones may be provided.

E. NAMING

Background

Parkland facilities and features are named to facilitate use, educate and honor the past. Naming policies are found the Master Plan and the Public Policies Manual.

Figure III-8 shows proposed names. Number designations are for the purpose of discussion in this report only.

Issues

Las Trampas trails are subdivided by too many names, making it difficult for park visitors to navigate with the brochures and sign posts.

Little Hills Regional Recreation Area is currently referred to in District documents by three different Names: "Little Hills", "Little Hills Ranch" and "Little Hills Picnic Ranch". This is inconsistent and confusing.

Policy

The District will simplify trail names in order to make the trail system easier to understand and use.

The District will maintain the "Nordstrom" name for a Las Trampas feature or facility to fulfill the acquisition agreement for the Nordstrom acquisition.

The District will standardize the Little Hills name on its documents.

Implementation Measure

- The District will rename the following trails in order to establish longer trail sections. Refer to Figure III-8.
- Establish the Del Amigo Trail name over a longer section of trail by extending it over the former Summit Trail.
- Establish the Bollinger Canyon Trail by combining the Grassland Trail, a portion of the Valley Trail, Elderberry Trail and roadside trail to the Las Trampas Stables
- Extend the Las Trampas Ridge Trail name across the entire ridge. Eliminate names of Gooseberry, Vista and Nordstrom trails.
- Rename Ohlone Trail to Corduroy Hills Trail. (The name Ohlone Trail is already used for one of the major regional trails in the District.) Corduroy Hills is a name for this area that was created by the famous American playwright, Eugene O'Neill, when he lived at the adjacent Tao House, now the Eugene O'Neill National Historic Site.
- Buckeye Canyon Trail will be used for an unnamed section of trail and a spur portion of the Madrone Trail.
- The name Ring Tail Ridge Trail will be used for a Trail on the northern boundary of the park.

- The District will work with EBMUD in its Land Use Master Plan to consider renaming trails in the Rocky Ridge areas so that a part of the Rocky Ridge Trail name is located along the top of the ridge.
- An unnamed ridgeline within the Nordstrom acquisition parcel is named "Nordstrom Ridge" in compliance with the Board resolution. The ridge, is just north of Eagle Peak.
- The name, Little Hills Ranch Regional Recreation Area, will be used as the official name of the parkland on all District documents and signs. This is a return to the name originally adopted by the Directors in 1976. The picnic concession may continue to use the name Little Hills Picnic Ranch for the picnic park.

F. PARK CAPACITIES

1. LAS TRAMPAS WILDERNESS

Las Trampas Regional Wilderness is relatively undiscovered, at this time, compared to many other District parklands. However, use has been steadily increasing each year for all types of users, especially for hikers and bicyclists. Estimated visitorship at Las Trampas in 1990 was 140,000 with the following breakdown (picnic 10,000; hiking 90,000; horseback 25,000; bicyclists 15,000.)

The heaviest use period for Las Trampas is weekend days and holidays. The busiest period of the day is between about 11 :00 a.m. and 2 or 3:00 p.m. Daily use includes regulars from Tracor, and nearby residential areas particularly in the morning, at lunch and after work. Appendix E includes some additional user information.

The majority of users enter the park from Bollinger Canyon Road where the park's only staging area is located. The existing maximum use of Bollinger Canyon has been estimated to be about 100 cars at a time. The existing 35 car parking lot is inadequate for high use day and cars park on Bollinger Canyon Road. Even on moderate use days, cars park both in the lot and along Bollinger Canyon Road.

On the eastern side, where the nearest major population areas of the San Ramon Valley are located, use is relatively low because of the lack of parking and recreational facilities. Use here is mainly local residents walking or riding into the park at the two existing trail heads. The heaviest user seasons in Las Trampas are the spring and fall. During periods of mild winters, the park sustains a longer high use period lasting 7 to 8 months of the year.

Las Trampas Regional Wilderness is expected to experience some increase in use because of the growing population and increasing awareness of the park. The proposed nature center may generate some additional visitors but is expected to primarily be an adjunct to park users, not a destination attractor in and of itself.

However, the very steep terrain is expected to continue to be an effective limiting feature that will keep use levels of interior areas relatively low compared to other similar regional parklands. Modest increases in parking availability are not expected to degrade the wilderness quality of the park due to its rugged topography and lack of developed recreation facilities.

Las Trampas Stables

The Resource Analysis and Land Use-Development Plan identify the concern of horse density given the small stable site adjacent to Bollinger Creek. In attempting to balance the dual objectives of resource protection and equestrian recreation opportunities, the District has established a maximum capacity at the boarding barn area at 40-45 horses. This is based on the current, covered 40 stalls plus five covered stall additions if warranted by demand. These numbers assume an aggressive clean-up and manure removal program and that all horses will be under cover during the rainy season. The District will continue to monitor water quality in Bollinger Creek to insure that these actions adequately reduce pollution.

Little Hills Picnic Park

The current capacity of the picnic park is 1400 persons at one time. Given the site constraints of limited flat areas and adjacency to Bollinger Creek, the LUDP does not propose any expansion of this site. In addition, there is no potential to expand the existing parking area that serves the picnic park. There are also infrastructure constraints regarding sewer leach line and water service that effectively limit the picnic park capacity to existing levels.

G. PLAN PRIORITIES

The phased priorities for capital improvements and development projects are based on: 1) the need to upgrade existing facilities for safety and efficient operations; 2) urgency due to potential hazards or resource protection and 3) critical paths (certain projects must precede others). District-wide capital funding is limited; therefore, implementation of the Plan has been organized by individual projects. It is possible that some projects listed as lower priority may be undertaken sooner than those of higher priority due to cost factors or the availability of volunteer labor or other incentives.

All actions specified in the LUDP or required as mitigation in the EIR will be scheduled by staff at a plan implementation meeting following adoption of the LUDP by the Board of Directors. These types of actions include:

- Enforcement and signing of bicycle prohibition
- Monitoring of water quality in Bollinger Creek
- Monitoring of special status species
- Monitoring of fuel levels for fire safety

Decisions regarding funding for these projects are made as part of the District's annual budget process. Approval of the plan does not constitute a commitment of funds for implementation by the District.

Priority One: Public Safety and/or Resource Protection

- Implement trail projects to establish service vehicle loops and begin negotiations to establish service vehicle access points. (Trail numbers refer to LUDP Figure III-8: Trail #1, 2, 6, 8, 14, 16, 20, D, E.
- Establish cattle exclosure fencing along west side of Bollinger Creek.
- Establish paddock in support facilities in 50 Acre Pasture to relocate rental string from Eastern Paddock.
- Modify facilities within Boarding Barn area to reduce runoff into Bollinger Creek.
- Abandon Bollinger Canyon Road as Country road and relocate security gate.
- Remove trails in riparian canyons. (Trail #B in LUDP Figure III-8)

Priority Two: Improve Public Access and Parking. Upgrade Existing Facilities

- Provide additional parking in Bollinger Canyon.
- Secure permanent site for service yard.
- Establish Regional Trail corridor.
- Staging area.
- Prepare Capital Improvement Plan for Little Hills picnic park and prioritize projects for implementation as funding allows.

Priority Three: Improve Recreational Opportunities

- Implement remainder of trail projects.
- Develop Interpretive Center.
- Establish additional staging areas on south and east sides of Las Trampas Regional Wilderness.
- Develop a joint agreement with adjoining public agencies regarding resource management, public access and other issues of mutual concern.





IV. ENVIRONMENTAL IMPACT REPORT

A. SUMMARY

This report addresses the potential environmental impacts of a Land Use-Development Plan (LUDP) prepared for the Las Trampas Regional Wilderness by the East Bay Regional Park District (District). In addition to the regional wilderness, the LUDP addresses future management of the Little Hills Regional Recreation Area and development of the Las Trampas to Mt. Diablo Regional Trail (west of Highway I-680). The purpose of the LUDP and its associated Natural Resources Management Plan (NRMP) is to guide the development of future recreational facilities and resource management activities in these parklands for the next 20 years.

This section is an Environmental Impact Report (EIR) based on the requirements of the California Environmental Quality Act (CEQA, Sections 21000-211177, Public Resources Code) and the Guidelines for CEQA (Sections 15000-15387, Administrative Code, Title 14, Chapter 3).

Las Trampas Regional Wilderness is located in Contra Costa County west of the San Ramon Valley. (See Figure II-2, vicinity map, and Figure II-1, location map, in the LUDP.) The park consists of approximately 3,500 acres of largely undeveloped land available for public recreation. Little Hills Regional Recreation Area, located in Bollinger Canyon adjacent to Las Trampas Regional Wilderness, consists of two small developed recreation facilities: a reservation picnic park and Las Trampas Stables. The Las Trampas to Mt. Diablo Regional Trail is an existing trail from Mt. Diablo State Park to the town of Danville, but does not currently connect to the Las Trampas Regional Wilderness, as envisioned in the District's 1989 Master Plan.

The LUDP includes proposals to modify and expand existing recreational facilities and access and also policies and guidelines related to management of the park's natural resources. Several actions are proposed specifically to mitigate existing adverse environmental impacts and protect sensitive natural resources. Other actions are designed to accommodate existing and expected future recreational use consistent with the area's wilderness designation. Key objectives of the plan are improved public access from the Alamo/Danville area (including trail staging areas), expanded facilities in the Bollinger Canyon area, improved service access and upgrading of the trail system, and modified operations of Las Trampas Stable to reduce water quality impacts.

The LUDP contains specific implementation measures, many of which are designed to avoid or reduce environmental degradation. District employees will need to adhere to these measures upon adoption of the Plan. This EIR summarizes key mitigation measures to be implemented as facilities are constructed or resource management

techniques are employed in order to ensure that potentially significant environmental impacts are avoided. Budget commitments to individual projects need to include funds for operational needs as well as capital expenditures. Successful mitigation may include ongoing monitoring of environmental conditions. While a detailed mitigation monitoring program is not included in this EIR, it is required to be prepared and adopted prior to the Board of Director's approval of the LUDP.

Agencies responsible for issuing permits that are required for plan implementation are listed in Section II.B.3 of the LUDP. This Environmental Impact Report (EIR) addresses potential impacts on geology and soils, hydrology and water quality, biological resources, air quality, noise issues, visual resources, energy, archaeological and historic resources, recreation, traffic, public services, planning and land use, and fiscal issues. The report also discusses alternatives to the District's preferred LUDP, including a "no project" alternative. The following briefly summarizes the potential impacts of the proposed LUDP.

Recreational Facility Developments

The LUDP includes several new recreational developments designed to enhance public access and use of the parklands. In general, developments will be minimal, occurring primarily in Bollinger Canyon and along the identified regional trail route.

The LUDP includes construction of a small nature center, expansion of existing parking capacity, and siting of new picnic areas in the Bollinger Canyon area; slight modifications and improvements to the existing trail system (including trail additions, upgrades, re-routes, and closures); closure of all park trails to bicycle use; development of new trail staging areas along the eastern and southern borders of the park; and modifications to facilities and operations at Las Trampas Stables (including relocation of existing paddock areas). Specific details of the LUDP are included in previous sections of this document.

In general, most of these proposed developments are expected to have a beneficial impact on the environment. New facilities and access will enhance opportunities for recreation; improved service road access will enhance police security and fire protection; and trail closures, re-routes, and improved maintenance will reduce soil erosion and human disturbance of sensitive habitats. All actions involving construction activities have the potential for short-term adverse impacts associated with construction equipment, habitat disturbance, and soil erosion, but careful facility siting and implementation /mitigation measures identified in the plan would reduce these impacts to a less-than-significant level with one exception. Facilities at Little Hills are located in a 100-year flood hazard zone, a significant environmental impact.

Plans to modify operation of Las Trampas Stables (including the relocation/reduction of horses and paddock facilities) are intended to reduce existing, ongoing water quality

impacts on Bollinger Creek. Although these actions will likely improve water quality, they may not be sufficient to reduce the impacts to a less-than-significant level by bringing the water course into compliance with regional standards.

Land and Resource Management

The LUDP includes a Natural Resources Management Plan (NRMP) which addresses specific actions and policies concerning the management of the park's natural resources. Because the overriding intent of the NRMP is to protect and enhance natural resources, including soil, air, water, vegetation, and wildlife, implementation of the plan will have beneficial impacts on the environment. Several specific management actions, however, such as grazing, prescribed burning, trail maintenance, and pest management, have the potential for adverse environmental impacts. These actions are management tools used to stabilize and sustain natural ecosystems, and the mitigative actions identified in the NRMP in connection with these activities would serve to protect the environment and minimize potential adverse impacts. No significant environmental impacts are anticipated with implementation of the NRMP except for the wildland fire hazard which remains as a significant impact.

Visitor Use

Considerable public concern has been expressed regarding the potential environmental impacts of the LUDP on recreational use of Las Trampas Regional Wilderness. One concern is that new developments will encourage more use and that this increased visitation may adversely impact park resources, including the parkland's wilderness character. Another concern is that park restrictions (particularly any trail closures), designed to protect natural resources, may unnecessarily limit the supply of recreational resources in the area and may concentrate trail use, which could result in a degradation of user experiences and possibly adverse impacts to natural resources.

As the population of the regional area increases, the demand for park resources will increase, resulting in increased use of the Las Trampas parklands. Developments proposed in the LUDP (including improved public access and increased parking capacity) are designed to accommodate this anticipated increase in use but at the same time provide for a quality wilderness experience and protect sensitive resource values. The LUDP in and of itself is not expected to actually induce recreationists to visit the site, although a nature center may create some additional demand. In fact, emphasis on maintaining and enhancing the park's wilderness characteristics, such as limiting the amount of picnicking, may actually deter some users. Park visitation is expected to increase in proportion to increases in regional population. No significant increases in visitor use and traffic, or impacts to park resources and traffic, are expected to result from implementation of the LUDP.

There are no indications that the current mix of trails at Las Trampas is inadequate to accommodate existing demand or that the LUDP would result in a concentration of trail users. Current use of Las Trampas is relatively low—estimated at 140,000 visitors in 1991—compared to other EBRPD parks in the area (160,000 visitors to Sunol; 400,000 visitors to Briones). The LUDP proposes only minor modifications to the park's existing trail network. In most cases these changes offer new opportunities. The few trails proposed for closure receive very low use and in many cases are difficult to locate on the ground. Implementation of the LUDP would not result in significant impacts to hiking or equestrian trail opportunities. The LUDP would, however, result in the displacement of the park's current bicycle users.

B. ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION

This section of the Draft EIR summarizes the environmental setting for each component of the physical, biological, and socio-economic environment from the Las Trampas Regional Wilderness Draft Resource Analysis (EBRPD, 1991), site visits, and other relevant materials listed in the References (Section E). Potential impacts are discussed and rated according to their severity using the following categories: less-than-significant, potentially significant, significant, and beneficial. Mitigation measures are identified as necessary to reduce the level of a potentially significant or significant adverse environmental impact to one of less-than-significant. Conclusions regarding no significant impact to the environment are explained.

CEQA Guidelines (Section 15382) define a "significant effect on the environment" to mean:

a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

The impact and mitigation analyses often refer to portions of the project area. The Las Trampas Regional Wilderness (Las Trampas) includes the approximately 3,500-acre parkland plus two non-contiguous parcels (Remington Loop and Southern Parcel) to the southeast. The 100-acre Little Hills Regional Recreation Area (Little Hills) contains the Little Hills picnic park and Las Trampas Stables. The third unit is the Las Trampas to Mt. Diablo Regional Trail (Regional Trail).

1. GEOLOGY AND SOILS

Setting

Geology and Topography

Las Trampas Regional Wilderness area is dominated by two parallel northwest-to-southeast ridges separated by Bollinger Canyon. The southwesterly ridge, Rocky Ridge, averages 2,000 feet mean sea level (msl) and is characterized by narrow, bumpy ridges with sandstone formations along the high points. The northeasterly ridge, Las Trampas Ridge, averages about 1,600 feet above sea level (1,800 feet at its peak) and has slopes which reach 65 percent.

Both Rocky Ridge and Las Trampas Ridge were at one time the floor of an ancient sea. Both ridgetops expose at least five different marine formations, laid down about 13–20 million years ago when California was part of the Pacific waters (EBRPD, 1991). The huge cliff-hogbacks on the western slope of Rocky Ridge consist of Briones Formation sandstones, which are believed to be the floor of irregular bays and straits where sediment had accumulated for millions of years. The marine bedrock geology consists of Miocene sedimentary rocks, including subplaty shales, siltstone, and fossiliferous sandstone (Harlan Tait Associates, 1992).

Approximately 10 million years ago, the seas withdrew from the area, and the Contra Costa group sediments were laid down by land-based events. The bedrock geology of the Pliocene nonmarine sedimentary rocks include weakly consolidated pebble conglomerate, sandstone, siltstone, and greenish-grey claystone of the Orinda and Mulholland Formations (Harlan Tait Associates, 1992). Along both flanks of Rocky Ridge and in Bollinger Canyon, formations of these sediments are exposed, and the grassy slopes of Rocky Ridge are underlain by thick beds of grey and red mudstone and sandstone.

Soils

Two major soil associations are represented in Las Trampas Regional Wilderness. The southwest faces of Rocky Ridge and Las Trampas Ridge are predominantly steep rock outcrops with extremely shallow soils known as xerorthents. The valley bottoms and northeast slopes exhibit the more developed soils of the Los Osos-Millshlom-Los Gatos association (EBRPD, 1991).

Most of the soils in Las Trampas Regional Wilderness are considered to represent a severe to very severe erosion hazard, largely due to the steepness of the topography. Most of the Wilderness exceeds 30 percent slope, and much of it exceeds 50 percent

(EBRPD, 1991). There are numerous landslides and colluvial (slope wash) and alluvial (water wash) deposits throughout the area. These landslides are for the most part a result of natural hillslope processes acting on relatively weak, recently uplifted bedrock materials over recent geologic time. Some historic activity, including grazing, wildfires, and road construction, have altered natural vegetation and surface drainage patterns which can cause landslides and erosion and sedimentation. Most of the drainages on both Rocky and Las Trampas ridges are eroding and gullied. The steep, rugged slopes on both sides of Las Trampas Ridge are characterized by relatively thinner soils and fewer landslides than any other section of the Wilderness (Harlan Tait Associates, 1992).

Seismicity

There are two faults in the Regional Wilderness, the Las Trampas fault and the Bollinger Fault. The Las Trampas Fault, which underlies the Corduroy Hills area northeast of Las Trampas Ridge, is a normal east-side-down fault with several east-west trending faults. The fault is active. The Bollinger Fault underlies Rocky Ridge and is also a normal east-side-down fault (Harlan Tait Associates, 1992). The Bollinger fault places older marine sandstone over younger mudstone, creating reverse layering of geologic strata.

Impacts and Mitigation

A significant effect on the geologic environment is a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the LUDP. The basic criterion applied to the impact analysis is whether or not implementation of the LUDP would create a fundamental change in the geologic, soil, or seismic conditions that would last beyond initial development of trails, a nature center, and parking. The damage to (or destruction of) unique geologic or physical features is an example of "fundamental change." CEQA Guidelines, Appendix G, also indicate that a project will normally have a significant environmental effect if it will expose people or structures to major geologic hazards.

Trails

Impact: The East Bay Regional Park District LUDP would connect some existing trails (with new trails) and abandon others to improve circulation for hikers and trail riders. Rerouting existing trails may have the potential to increase soil erosion and sedimentation in receiving waters. This impact could be significant; but with implementation measures identified in the NRMP, the erosion/sedimentation impact from new trail construction and trail abandonment would be less than significant.

Mitigation: The District contracted with a geotechnical consultant to provide a report on geologic conditions and a constraints evaluation of Las Trampas Regional Wilderness

area (Harlan Tait Associates, 1992). The report provides geologic data and landslide and surface deposit data in map overlays which the District used in siting trails/facilities in the LUDP to avoid impacts on soils, fossil beds, and other resources and to avoid geologic hazards. Significant measures included in the Plan are:

- The District would monitor potentially hazardous landslides and close or reroute any trails that could be affected.
- The District would design the new trails to maintain resources in their natural position to the greatest extent possible. Erosion control measures (such as water bars, drainage swales, and energy dissipators) would be placed at problem sites and maintained over time.
- When trails are abandoned, the District would stabilize them by reducing soil compaction and regrading to approximately the original contours and by revegetating alignments as feasible. The first priority would be to stabilize trail intersections with remaining active trails.
- The District would impose restrictions on some trails when they are wet to reduce the impacts of hikers.

Impact: The District plans to improve existing two track trails to provide improved service and fire access to remote parts of Las Trampas Regional Wilderness. Grading and alignment of these existing trails may have the potential to increase erosion and sedimentation. This impact could be significant, but the following mitigation measures which have been incorporated into the Plan would make the impact less than significant.

Mitigation:

- The District would minimize grading and would grade and align roads to minimize impacts on soil.
- The District would include erosion control for the construction and maintenance of roads and trails.
- The District would ensure that the service roads are properly drained to prevent erosion and would repair gully erosion where it has occurred.
- The District would impose restrictions on use of service roads when wet to reduce the impact of vehicles on erosion and sedimentation.

In addition, this EIR identifies as further mitigation that the District adopt a grading manual and that the grading and trail manuals be periodically reviewed (at least once every five years) and updated to reflect current District policies and current "best available" standards for erosion and sediment control.

Nature Center and Parking Lot Expansion

Impact: The addition of a nature center at the end of Bollinger Canyon Road has the potential to increase erosion and sedimentation during the construction phase and may have some impacts during the operation phase. These impacts are potentially significant, but measures provided in the LUPD would reduce the impacts to less than significant.

Mitigation:

- The District would minimize grading for constructed facilities by designing facilities to conform to the natural topography as much as possible.
- The District would include an erosion control plan as part of all plans and specifications which specify grading.
- The District would obtain a geotechnical investigation (soil tests) to determine design criteria for structure foundations, drainage improvements, and pavement.
- The District would avoid geologic hazards in siting the new structure.

Impact: Adding new parking has the potential to increase erosion and sedimentation during the construction phase. In addition, an enlarged parking area may increase compaction of soils and permit seepage of gasoline and oil into the ground if unpaved. These impacts could be significant, but measures provided in the LUPD would reduce the impacts to less-than-significant levels.

Mitigation:

- The District would minimize grading for parking and would make the designs fit in with the natural topography as much as possible.
- The District would incorporate setbacks of 50 feet from the top of the bank of Bollinger Creek in the design of new parking lot expansion.

- The District would obtain a geotechnical investigation (soil tests) to determine design criteria for compaction, drainage improvements, and pavement.

Impact: The nature center will enhance the use of Las Trampas and indirectly has the potential to impact the fossil resources of Las Trampas. At the same time, the nature center provides an opportunity for public education about paleontological resources. The overall environmental impact is less than significant, because mitigation has been incorporated into the LUDP as follows.

Mitigation:

- District staff would be trained in identification and management of fossil resources to ensure that maintenance activities do not damage these resources.
- The District would educate the public about the destructiveness of fossil collecting through interpretive panels and programs. The location of sensitive paleontological resources would not be mapped in public documents.

Impact: In order to establish a 2.5 to 3-acre paddock in the 50 Acre Pasture for a maximum of 49 horses, grading is required. The District would grade the area from the roadway to the paddock on an upper bench and flatten the paddock area. Approximately 1,500 cubic yards of balance cut and fill is involved. Grading is to meet current standards. No geologic hazards from landslides affect the site. Given the amount of material involved and the site's location, no significant impact on soil resources or erosion is anticipated.

Mitigation: None required.

2. HYDROLOGY AND WATER RESOURCES

This section describes the local and regional hydrologic characteristics that affect the Las Trampas Regional Wilderness and Little Hills Recreation Area. It discusses the existing state of the hydrologic resources, the present impacts of park uses on those resources, and the possible impacts from implementation of the Land Use-Development Plan (LUDP) on water resources.

Setting

The Las Trampas Regional Wilderness area is located in the south central portion of Contra Costa County. This is a section of the California Coastal range separating the San Ramon Valley from the coastal areas along San Francisco Bay. The extreme topography is due to two parallel ridges characterized by strongly sloping to very steep uplands that have been historically used as light agriculture and range land. Most of the immediately surrounding area is sparsely populated, except for residential neighborhoods along the park's eastern border. Las Trampas lies east of the East Bay Municipal Utility District's Upper San Leandro Reservoir Watershed.

Drainage

Las Trampas Regional Wilderness is situated on the northern end of Las Trampas Ridge. This ridge is drained to the southeast by Bollinger Creek, to the northwest by Las Trampas Creek, and to the east by several small streams which discharge into San Ramon Creek. A section of the park along Rocky Ridge is drained to the west by Cull Creek, eventually discharging into San Francisco Bay. All of the tributaries draining the study area, except Cull Creek, eventually converge with Walnut Creek which flows north, eventually discharging into Suisun Bay. The drainage area of the park is approximately 5.4 square miles (EBRPD, 1991). Approximately 50 percent of the park drains to San Ramon Creek, 30 percent to Bollinger Creek, and 20 percent to other small creeks draining to the west. The primary area of development is in the Bollinger Creek drainage basin. This basin collects drainage from the main staging area on Bollinger Canyon road, Las Trampas Stables, and Little Hills picnic park. Bollinger Creek, draining to the southeast, eventually converges with San Ramon Creek four miles below the main staging area at the park entrance. The surface water draining from the park is a combination of rainfall and accumulated discharge from springs and seeps. During dry periods all of the discharge is from spring flow.

Precipitation

The precipitation pattern along the central coast of California generally shows a decreasing trend ranging from the moist coastal areas in the Coastal Range to the dry central valley. The amount of precipitation within the Coastal Range will vary considerably depending on the elevation and the location within the varied ridges that make up the range. The mean annual precipitation for the Las Trampas area as reported by the National Oceanic and Atmospheric Administration (NOAA) over a 30-year period is 23 inches (NOAA, 1990). Most of the precipitation occurs between October and April. The mean monthly precipitation in the vicinity of Las Trampas is shown in Table IV-1. (The Livermore station is included to bring out the differences in precipitation that can be found between the ridges within the Coastal Range).

Location	Jan.	Feb.	March	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Berkeley	5.3	3.51	2.97	1.95	0.4	0.17	0.07	0.11	0.36	1.25	2.93	4.22	23.24
Mt Diablo Junction	5.26	3.63	2.89	1.90	0.57	0.16	0.05	0.08	0.26	1.28	2.83	4.19	23.10
Livermore	3.04	2.19	1.81	1.28	0.38	0.11	0.04	0.07	0.27	0.67	1.77	2.57	14.11

Table IV-1 Mean Monthly Precipitation in the Vicinity of Las Trampas Regional Wilderness

Water Resources

The major water resources in Las Trampas and Little Hills are the surface water flow in the creeks that drain the park and the readily available groundwater from the aquifer beneath the area. The only water impoundment in the park is a two-acre livestock watering pond located adjacent to the Eugene O'Neill National Historic Site. Major artesian aquifers are located beneath the eastern sides of Rocky Ridge and Las Trampas Ridge. These aquifers feed several springs located within the park. Two of these springs are used to supply drinking water to the Little Hills picnic park and Las Trampas Stables. These artesian springs also provide a major contribution to stream flow. According to the stable operators, many of the springs have remained artesian during the last five years of drought (Leahy, 1992). Several of the springs have historically been used for watering cattle.

Water Quality

Water quality is an important consideration in the park because beneficial uses of surface and groundwater supplies include public and private drinking, non-contact water recreation, and limited water contact recreation (RWQCB, 1991). The springs used for drinking water are monitored regularly to ensure compliance with State and County drinking water standards. Table IV-2 (EBRPD, 1991) lists some of the major constituents found in several of the springs monitored by the District. Water quality standards for surface waters are shown in Tables IV-3a and IV-3b (RWQCB, 1991). Title 22, State Health Standards (22 Cal. Adm. Code, Division 4. Environmental Health) addresses water quality standards for public water supplies and water contact recreation.

Surface Water

The proposed beneficial uses of Bollinger Creek, as determined by the Regional Water Quality Control Board, are water contact recreation, non-contact water recreation, warm freshwater habitat, cold freshwater habitat, wildlife habitat, fish migration, and fish spawning. The existing or potential beneficial uses of groundwater in the Bollinger

TABLE IV-2

CONCENTRATIONS^a OF WATER QUALITY PARAMETERS IN SAMPLES FROM SPRINGS
IN THE LAS TRAMPAS REGIONAL WILDERNESS

Parameter	Little Hills Springs (Rocky Ridge #5 & #6)	Eugene O'Neill Estate Spring	Walnut Orchard Sulfur Spring	Metal Trough Spring	Ridge Sulfur Spring	Remington Loop Well
Alkalinity, total	150	210	390	150	100	160
Alkalinity, phenol	<10	<10	<10	<10	<10	<10
Chloride	15-20	20	20	15	190	25
Copper	0.03-0.05	0.03	0.06	0.04	0.06	0.08
Hardness, total	190-200	260	30	190	80	320
Hardness, calcium	160-180	190	15	140	60	220
Hardness, magnesium	10-40	70	15	50	20	100
Iron	0.01-0.04	0.06	0.02	0.02	0.01	0.90
Nitrate as N	0.07-1.0	0.6	0.5	0.5	0.6	0.6
Nitrate as NO ₃	3.1-4.4	2.64	2.2	2.2	2.64	2.64
pH (units)	7.25	7.15	7.6	7.4	6.5	7.1
Sulfate	100-110	110	170	160	18	165
Conductivity (µmho)	900-1,000	1,200	1,890	1,030	1,490	1,300
Orthophosphate	--	0.07	0.05	0.12	--	0.88
Total coliform Bacteria	<1-8 ¹ (chlorinated)	<1	No sample	TNTC ^{1,2}	No sample	No sample

a Except as noted, in milligrams per liter (ppm).

1 Exceeds recommended State Drinking Water Standard.

2 TNTC - Too numerous to count (i.e., too many colonies on plate to separate and count accurately).

Source: EBRPD, 1991.

TABLE IV-3a

WATER QUALITY OBJECTIVES FOR COLIFORM BACTERIA^a

Beneficial Use	Fecal Coliform MPN/100 ml	Total Coliform MPN/100 ml
Non-Contact Water Recreation	mean <2,000 90 percentile ≤4,000	— —
Water Contact Recreation	log mean <200 90 percentile <400	median <240 (no sample >10,000)
Municipal Supply surface water groundwater	log mean <20 —	log mean <100 median <2.2*

a Based on a minimum of five consecutive samples equally spaced over a 30-day period.

* Based on a seven-day median.

Source: RWQCB, 1991.

TABLE IV-3b

EPA BACTERIOLOGICAL CRITERIA (colonies per 100 ml)
FOR WATER CONTACT RECREATION^a

	Enterococci	E. coli
Steady State (all areas)	33	126
Maximum (designated beach)	61	235
(moderately used area)	89	298
(lightly used area)	108	406
(infrequently used area)	151	576

a. Criteria apply to water contact recreation only. The criteria provide a level of protection based on the frequency of usage of a given water contact recreation area. The criteria may be employed in special studies within this Region to differentiate between pollution sources or to supplement the current coliform objectives for water contact recreation.

Source: Federal Register 51(45):8012-8016, cited in RWQCB, 1991.

Canyon area include domestic, agricultural, and industrial water supply. Resolution 74-11 (1974) of the Regional Water Quality Control Board prohibits the discharge of manure into a water course subject to flooding. Also the State Department of Fish and Game does not permit discharges of any substance deleterious to fish (Fish and Game Code, Section 5650). Horse manure and urine degrade the water quality, often resulting in a change in pH of the water and a decrease in available oxygen.

The existing water quality in Bollinger Creek has shown signs of significant degradation. To evaluate this existing water quality, EBRPD collected water quality samples in Bollinger Creek on three occasions in 1992. The first sample was taken on 7 February, during a dry period between rainfall events. Samples were taken at several locations in the vicinity of the Las Trampas Stables and analyzed for total coliform bacteria. Table IV-4 shows the results of this testing. As can be seen, there is a significant increase in total coliform bacteria between water upstream of the stables and water downstream of the stables. Considering that there was no runoff during this period, the contamination is either from direct contact of waste products with the creek or from contaminated groundwater flowing into the river.

A second set of samples was taken on 11 February, during a rainstorm, in order to measure the direct effects of surface water runoff on the water quality of the creek. On this occasion, total coliform bacteria, nitrate, nitrite, and ammonia were measured. As can be seen in Table IV-4, there is a significant increase in coliform bacteria in the stream that is due to runoff from Las Trampas Stables and possibly from the Little Hills picnic park. The values are significant when compared with the water quality guidelines for coliform bacteria from the Water Quality Control Plan for the San Francisco Bay Basin (Table IV-3a). When the second set of measurements were made, the coliform count in Bollinger Creek below the stables was at least 16 times as great as that allowed for human recreational contact by the San Francisco Bay Regional Water Quality Control Board. It is presently unknown if the contamination in the creek could be transmitted downstream to water supply wells that are hydraulically connected to the stream. However, RWQCB requires that the creek meet the guidelines for all beneficial uses assigned to it.

A third set of water quality data was collected by the District on 6 April 1992. This set was collected during a dry weather period when direct runoff could not be expected to occur. As shown in Table IV-4, this data indicates a reduced impact to water quality when compared with samples taken earlier in the year. The data shows that the bacterial count is decreasing as the creek passes through Las Trampas Stables. To determine if this phenomenon represents the typical condition, further testing would be necessary.

TABLE IV-4

CONSTITUENT CONCENTRATIONS IN WATER QUALITY SAMPLES IN BOLLINGER CREEK, 1992

LOCATION	7 February			11 February			6 April		
	Coliform (mpn/ 100 ml)	Nitrite	Ammonia (mg/L)	Coliform (mpn/ 100 ml)	Nitrite	Ammonia (mg/L)	Coliform (mpn/ 100 ml)	Nitrite	Ammonia (mg/L)
1. Bollinger Creek upstream of all influent from Las Trampas Stables ¹	110	NS	NS				400	1.7	0.05
2. Runoff from northerly paddock area into drainage channel				>160,000*	270	14			
3. Bollinger Creek at confluence of northerly paddock drainage channel	1,300	NS	NS	24,000	1.8	0.1	3,000	1.5	0.02
4. Bollinger Creek behind stables and corrals	7,000	NS	NS	90,000	22	4.8	900	2.4	0.02
5. Runoff from southerly paddock area into drainage channel				>160,000*	42	0.67			
6. Bollinger Creek at confluence of southerly paddock drainage channel	7,000	NS	NS	>160,000*	66	2.0			
7. Bollinger Creek 0.2 miles downstream from stables							400	2.8	0.02

1. On 7 February; behind Little Hills playfield; on 6 April, 0.2 mi. upstream of n. paddock drainage channel.

* Colony densities too great to enumerate.

Source: EBRPD, 1992

11-126

Groundwater

Groundwater is used for public consumption and stock watering. Table IV-2 indicates that the drinking water supply for the Little Hills picnic park and Las Trampas Stables (Rocky Ridge #5 and #6) has had a total coliform count that exceeds State standards. The total coliform data range from <1 to 8 MPN/100 ml. Twice in three years a sample exceeded <2 MPN: one sample was 2 MPN, and one sample was 8 MPN. Although these samples exceed the standard of <2 MPN/100 ml (Table IV-3a), occasional values greater than 2 are allowed under State regulations. The State specifies a median total coliform count to be less than 2.2 MPN in five consecutive samples, so no violation has occurred.

Groundwater contamination has been documented (EBRPD, 1991). This contamination is from solvents discharged into a leachline paralleling Bollinger Canyon Road near TRACOR. This leachline is owned by the Central Contra Costa Sanitary District, who is conducting a groundwater investigation and review of the system. Continued operation, maintenance, and monitoring of the leachline is subject to RWQCB permit requirements.

Flooding

Areas along Bollinger Creek within the Las Trampas and Little Hills park units lie within the 100-year flood zone as designated by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (July 1987). Areas subject to flooding from a once-in-a-100-year storm event are in FEMA's Flood Zone A. Zone A is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base flood elevations or depths are shown within this zone. Flood Zone A begins approximately 800 feet south of the existing main staging area at Las Trampas and extends through Little Hills Recreation Area. The flood zone averages 400 feet in width, extending approximately 200 feet on each side of the creek in the vicinity of Little Hills picnic park. All of the structures at the picnic park are located within the 100-year flood zone. At Las Trampas Stables, the 100-year flood zone continues to extend 200 feet on each side of the creek. The flood zone extends eastward to Bollinger Canyon Road, encompassing all of the developed stable facilities at the boarding barn/arena area.

Impacts and Mitigation

The CEQA Guidelines indicate that a project will normally be considered to have significant impacts to water quality or hydrology if it will: (1) substantially degrade water quality, including siltation from erosion; (2) contaminate a public water supply; (3) substantially degrade or deplete groundwater resources; (4) substantially diminish habitat for fish and wildlife; or (5) expose people or animals and plants to hazards. On the basis

of these criteria, the project could have significant adverse impacts on water resources. Although the project is not expected to cause substantial flooding due to significant runoff from impervious surfaces, existing flood hazards pose a threat to public and animal safety.

This section describes the impacts of elements of the LUDP on the water resources in Las Trampas and Little Hills. The project is evaluated by the direct and indirect impacts that its actions will have on:

- the streams and water courses, including riparian vegetation and bank erosion
- the quantity and quality of the groundwater resources
- the surface water quality within the streams and proper control of stormwater runoff
- exposure of people, animals, and property to flood hazards.

Las Trampas Stables

The Las Trampas Stables are located along the east bank of Bollinger Creek just south of the main staging area and parking lot. The stable facility has a current capacity of approximately 130 horses, and accommodates both rental and privately owned horses which are boarded in either indoor stalls or outdoor pens and paddocks.

Impact: The LUDP includes (1) reducing the maximum number of horses from 131 year-round to 40-45 during the dry season and (2) moving up to 49 trail ride and guide horses from the Eastern Paddock along Bollinger Canyon Road and the corral/pens along the creek to the 50 Acre Pasture area and part of the Eastern Paddock (near the entrance to TRACOR for dry season use). An additional 10 horses may be located to an empty field at Holly Court. The remaining 40 horses at the main stable area (year-round use) would continue to contribute to contaminated runoff, because the property drains into the creek. The level of contamination would be reduced from present levels, because of the manure removal program, covering of stalls, and the removal of a substantial number of horses from outdoor pens and stalls adjacent to the creek and from the Eastern Paddock, which drains into Bollinger Creek. The reduction to a 40 to 45-horse facility at the boarding barn might not bring the coliform contamination to a less-than-significant level.

Mitigation: The Natural Resources Management Plan lists the following measures for the boarding barn area and Eastern Paddock which may stabilize or improve the existing water quality:

1. Continue the existing practice of hauling manure from the boarding barn stalls to be disposed of at a suitable landfill site or recycled as soil conditioner. Expand the manure removal program to include all other stables.
2. Continue to monitor the coliform bacteria and nutrient levels in Bollinger Creek. If levels remain high, the District would convert to a seasonal operation.
3. Remove the isolation corral, pony paddock, and pipe pens located along the creek. Locate new covered stalls at least 50 feet from the edge of the creek.
4. Direct the runoff from the horse washing facility to a septic collection system.
5. Remove horses from the Eastern Paddock by the beginning of the rainy season (approximately October 1) of each year, and remove manure from this area soon after the horses are moved.

Items One and Two are measures presently being implemented, and they would be continued and expanded. A monitoring program should be implemented to determine whether additional measures, if any, are needed to reduce the level of contamination to meet water quality standards. If standards cannot be met, additional measures may include design/installation of an on-site collection and treatment system or relocating the stables off-site. The District should establish regular sampling locations and a sampling schedule with appropriate water quality parameters that are satisfactory to the Regional Water Quality Control Board. Item Three should have a beneficial effect on the contamination of Bollinger Creek. The overall volume of waste products generated on the site in uncovered areas adjacent to the creek would be reduced. The intent of item Four would be to prevent contaminants from being transmitted to the stream. Existence of contaminants from the soap has not been documented, and the operators of the stable report that only biodegradable soaps are being used (Leahy, 1992). The primary benefit would be to minimize manure/urine in wash water from draining into the creek. Item Five is intended to reduce the contaminants that would run off into the stream during the rainy season. Given that it is nearly impossible to remove all of the manure from the ground without also removing the topmost inch of soil, the net effect of this measure is unknown.

Impact: The LUDP includes moving 40 to 49 horses, presently boarded at the existing stables, to a 2.5 to 3-acre paddock in the 50 Acre Pasture. The relocation might cause contamination of groundwater in the area below the new location, but it is unlikely that this groundwater would reach Bollinger Creek. Of greater concern is the potential for runoff from either site to lead to surface water contamination of Bollinger Creek as a result of waste products being transported to the stream by rainfall runoff. If this were to occur

without mitigation, the effect would be to move the water contamination from one location to another.

Mitigation: The paddock in the 50 Acre Pasture and the Holly Court alternative paddock would be effective only if all of the storm runoff at the new locations are prevented from draining into Bollinger Creek (via the existing culvert) and allowed to infiltrate into the ground. If the runoff is allowed to enter the culvert/existing drainage system, it would end up back in the creek, and no environmental benefit would be obtained. To prevent any contaminated runoff from leaving the site, the paddock areas would be graded so that all runoff is contained on-site. For the 50 Acre Pasture paddock, an upslope diversion swale would be implemented to prevent upslope drainage from crossing the paddock. A manure cleanup program would be implemented. With these measures, a less-than-significant impact on water resources would occur.

Impact: The LUDP includes using a portion of the existing paddock on the east side of Bollinger Canyon Road (near TRACOR) around the hay barn as a holding pen, during the dry season only.

Mitigation: The District would require remove manure prior to the rainy season, which would minimize the potential for contaminated runoff from this area draining into the drainage ditch along the road, which eventually drains into Bollinger Creek. The impact on water resources would be less than significant.

Little Hills Picnic Park

Impact: The picnic park contains a chlorinator system for the water storage tanks, a swimming pool, and an on-site sewage disposal system. If any of these systems malfunctions, wastewater and/or chlorine and swimming pool chemicals could contaminate Bollinger Creek. Introduction of these contaminants into Bollinger Creek would substantially degrade the water quality and potentially contaminate groundwater. Risk of a significant adverse environmental impact to water quality can be reduced to a less-than-significant level with the following operational measures included in the NRMP.

Mitigation:

- annual septic tank clean-out and leachline inspection
- restriction of on-site storage of chlorine and other chemicals to the minimum quantities necessary for facility operation
- connection to municipal water and sewer lines if and when such lines are provided by other special districts or service providers.

Increase in Parking Area

Impact: Increasing the available parking space at the main staging area and at new staging areas would cause an increase in the amount of surface runoff from the reduction in permeable area, and it could result in an increase in the amount of oil and grease pollution originating with automobiles. Construction activities, including grading, could also result in short-term adverse impacts to existing streams if silt and debris are allowed to wash into stream courses. Implementation measures included in the LUDP would reduce impacts to less-than-significant levels.

Mitigation:

- New parking areas would be paved, gravel, or dirt with compaction and drainage improvements that meet generally accepted engineering standards.
- Grading for constructed facilities such as parking lots would be minimized and erosion control measures implemented.

Construction of the Nature Center

Impact: Construction of the nature center could result in a short-term adverse impact to the existing streams if excavation performed during construction allows silt and debris to be washed into the creeks. An increase in turbidity in natural streams has been shown to impact aquatic organisms. The following measures in the NRMP would reduce the impacts generated by the construction to a less-than-significant level.

Mitigation:

- The District would include an erosion control plan as part of all plans and to specifications which specify grading .
- All construction would be setback 50-feet from the top of bank of any water course.

Impact: Increases in visitor use have the potential to deplete groundwater resources. Springs on-site are sufficient to accommodate existing and future visitors and livestock, so no significant impact occurs. If municipal water lines are extended to Little Hills, the District would discontinue public use of spring water.

Mitigation: None required.

Stream Bank Erosion

Impact: Developed facilities which occur along the streams within the park are contributing to bank and stream bed erosion.

Mitigation: To reduce these impacts to a less-than-significant level, the NRMP includes the establishment of a riparian protection zone extending from the top of the bank to 50 feet on either side for any future building and parking developments adjacent to creeks. In addition, the District would install fencing to protect portions of creeks from cattle.

Erosion Along Trails

Impact: Runoff combined with hiking and riding activities along proposed new trails can contribute to erosion and gully formation along steep slopes, a significant environmental impact. The District would reduce impacts to a less-than-significant level with the following measures, which are included in the NRMP.

Mitigation:

- The District would eliminate some trails in the riparian corridors. Eliminated trails would be revegetated.
- Barriers to erosion from runoff would be constructed on trails that traverse steep grades.
- Some duplicate trails would be removed. Hiking off trails and short-cutting switchbacks would be discouraged by posting.
- Trails would be inspected periodically and closed as necessary for revegetation and maintenance.

Flooding

Impact: A significant environmental impact occurs when people and animals are exposed to the hazards of flooding. The standard for determining the significance of this impact is the FEMA criterion of protection from a 100-year flood. The 100-year flood is an infrequent event, but it presents a risk to animals at the stables, to the public safety (park users and 5 or 6 residents at Little Hills), and to public and private property. Buildings at Little Hills could be damaged, including the security residence and two mobile homes. The proposed nature center is to be sited outside of the flood zone, but new parking near Corrales Camp is within the flood zone. Serious flooding could further undermine the structure overhanging the creek at Las Trampas Stables. While most park visitors are

unlikely to be using park facilities during wet weather, up to six occupants of the security residence/mobile homes, and equestrians or management personnel at Las Trampas Stables are at risk. The 40-45 horses residing in the boarding barn are also at risk. New structures are planned for development within the flood zone at Little Hills, including an addition to the boarding barn and recreational facilities at the picnic park.

The exact extent of inundation in a FEMA Zone A is not known. The depths of flooding in such areas are estimated by approximate methods, and because of the inexact nature of these calculations FEMA chooses not to include depths in their reports. The significance of the impact due to flooding is strongly related to the expected depth of flooding and velocity of the flood waters. Slight flooding of a few inches would not pose a great hazard to public or animal safety or create extensive property damage. However, even slight flooding would adversely impact water quality by washing manure from the boarding barn and arenas into the creek. In addition, flooding would cause the septic tank and leachline to fail and introduce fecal material into the creek; and stored chemicals such as chlorine could reach the creek. High flood water velocities and high levels of inundation would create a substantial problem.

Mitigation: The Safety Element of the Contra Costa County General Plan contains the following flood hazard policy (#10-38): "Flood-proofing of structures shall be required in any area subject to flooding; this shall occur both adjacent to watercourses as well as in the Delta or along the waterfront." According to the LUDP, no new residential construction is proposed in the flood zone areas, but new structures at Little Hills are proposed in the Capital Improvements Program. In order to obtain building permits, the District would need to comply with County regulations. As indicated in the LUDP, new structures would be set back 50 feet from the creek, but would remain within the 200-foot flood zone extending east of Bollinger Creek. The LUDP presents a potentially significant impact that can be partially reduced by the following measures (not part of the proposed Plan):

- Retain the services of a qualified hydraulic engineer to define the exact nature of the flood velocities and inundation levels and to define the extent of flooding within the study area.
- Implement flood-proofing measures to existing structures (the cost could make this measure infeasible).
- Connect Little Hills to a public sewer line if such a line becomes available in the future.

Widening the creek channel to accommodate the 100-year flows is an alternative mitigation measure that is not generally feasible, due to potential adverse impacts and

cost considerations. Creek widening could damage habitat and change the natural character of the creek, which is important to the recreational experience at Little Hills. With habitat restoration, the impact of widening could be partially minimized, except for the fact that the creek is habitat for the foothill yellow-legged frog. Removing the reservation picnic park facilities and the stables from the flood zone is not feasible at this time, because of a lack of available sites and a significant reduction in recreation opportunities.

In the absence of detailed information on the depth of flooding and the velocity of the flood water, the exact level of significance of the impact cannot be determined. But since the facilities of Little Hills and Las Trampas Stables lie within the FEMA designated 100-year flood zone, a potentially significant adverse environmental impact exists.

3. BIOLOGICAL RESOURCES

The biological resources in the Las Trampas Regional Wilderness reflect the complexity and diversity of biota associated with a landscape of varied topography. These resources have been detailed in the Las Trampas Regional Wilderness Draft Resource Analysis (EBRPD, 1991). This section would briefly reiterate the biotic setting in Las Trampas, present the major issues associated with management of the resource, and identify impacts of the proposed Land Use-Development Plan and mitigation measures for those impacts.

Setting

The biological resources of Las Trampas are the product of the interactions among the diverse topography, climate, and the biota themselves within the wilderness. Like much of the Coast Range in and around the Bay Area, the slopes and valleys of the wilderness support many vegetative habitats. These habitats include dry annual grasslands, drier chaparral habitats on southern- and western-facing slopes, moist woodlands in shaded and north-facing slopes, and the more dense and wet riparian corridors. Associated with these diverse habitats is a similarly diverse fauna.

Because of the intimate associations between vegetation and wildlife, the biotic features of Las Trampas are addressed together as components of five general biological habitats: grassland, shrubland, woodland, riparian and wetland, and urban and landscaped. Included within each of these sections is a brief summary of the vegetative character, the wildlife, any special-status species present, and a discussion of relevant animal and plant pests (if appropriate).

Grassland

Approximately one-third of the acreage of Las Trampas is composed of grasslands dominated by introduced (non-native) annual grasses and forbs. Although these introduced species are only thirty percent of the number of grassland species, they constitute almost ninety percent of the vegetative cover of the grasslands. These introduced species are not constrained by their native ecological limiting factors, and thus have been able to exploit the East Bay environment at the expense of the native species. The impact of non-native grassland species is not confined to Las Trampas, and while this issue is important, it is an issue primarily of the regional biological arena. Because of the annual life cycle of most of the grassland species, there is a large turnover and cycling of biomass that creates a diversity of habitats even within the grasslands themselves: during the winter and springtime, the grasslands form lush green expanses that attract grazers and have abundant wildflowers (such as the Oakland star-tulip) that support insects and nectar-feeding animals; during the summer and fall, the dry hillsides do not support as lush a fauna, and the brown landscape is more notable for its wildfire potential.

Grassland habitats provide an important food source for herbivorous animals such as rodents and passerine (perching) birds such as sparrows. Invertebrate animals living in the grassland habitats also provide a ready food source for other reptilian, avian, and mammalian predators. In turn, these smaller animals provide a food base for the larger predators: raptors (predatory birds), such as eagles, hawks, falcons, and owls, and mammalian predators such as coyote, fox, bobcat, mountain lion, and badger.

No special-status plants (species considered rare, threatened, or endangered by the State or Federal governments or considered as candidates for State or Federal designation) have been observed in the grassland habitats of Las Trampas, but the Oakland star-tulip (*Calochortus umbellatus* Wood), which is included on California Native Plant Society List 4, indicating its limited distribution, is found at many sites in Las Trampas, especially along Elderberry Trail. Grasslands support an abundant food base for a variety of predators that are either special-status or candidates for listing, as well as other predators notable because of their position in the food web. Special-status species include the golden eagle (*Aquila chrysaetos*), prairie falcon (*Falco mexicanus*), and badger (*Taxidea taxus*), while additional important predators include other hawks, falcons, and owls, and coyote and fox.

The abundance of non-native vegetation in this habitat includes plant pest species: artichoke thistle (*Cynara cardunculus* L.), purple starthistle (*Centaurea calcitrapa* L.), and yellow starthistle (*Centaurea solstitialis*). The California ground squirrel (*Spermophilus beecheyi*) inhabits grassland and open oak woodland habitats, and is considered a pest when its destructive burrowing degrades grassland habitats. The western yellowjacket

(Hymenoptera: *Paravespula pennsylvanica* S.) is a common resident of dry regions throughout the park, but is a nuisance at the picnic facilities of the Little Hills Regional Recreation Area.

Shrubland

Shrubland constitutes approximately twenty percent of the acreage in Las Trampas. While the components of the shrubland habitat can be classified into a myriad of subtly distinct forms, chaparral and coastal scrub are two broad, inclusive generalizations for the shrubland types present in Las Trampas. In general, chaparral occupies the drier slopes and coastal scrub is located on moister hillsides. Because of the arid nature of the chaparral habitat, this vegetation can present a significant wildfire hazard.

Shrubland within Las Trampas is primary wildlife habitat, providing food and cover for a variety of animals. The dense habitat supports many passerine birds, rodents, and rabbits, which in turn are prey for other consumers such as raptors, foxes, and bobcats.

Chaparral habitat potentially supports three plant species of particular interest: Oakland star-tulip, Mount Diablo fairy lantern (*C. pulchellus* Dougl. ex Benth.), and Diablo helianthella (*Helianthella castenea* Greene). (These species may also be found in woodland habitat and grassland.) Though it may be locally abundant within Las Trampas, the Oakland star-tulip is of limited distribution in California, and *C. pulchellus* was only recently observed. Helianthella is not State-listed or Federally listed, but it is considered rare within part of its range by the California Native Plant Society. Several additional plant species found at Las Trampas deserve mention because of their uncommon distribution: mahonia (*Berberis pinnata*), redberry (*Rhamnus crocea*), and scrub oak (*Quercus dumosa*). Las Trampas Ridge is part of the northernmost extent within California of black sage (*Salvia mellifera*). The chaparral habitat provides good habitat for the Alameda whipsnake (*Masticophis lateralis euryxanthus*; also known as the Alameda whiptail and the Alameda striped racer). This snake is State-listed as threatened and is a candidate for Federal listing.

Feral pigs are not currently found in Las Trampas, but are nearby. If colonization were to occur, chaparral would provide the dense vegetation that these animals prefer as sleeping habitat and escape cover.

Woodland

Woodlands, which make up more than 50 percent of the vegetation within Las Trampas, can range from relatively open-canopied blue oak woodland interspersed in the grasslands to the dense-canopied oak/bay woodlands associated with cooler, wetter slopes and streamside corridors. Woodlands within the wilderness are diverse, because

the canopy structure, understory composition, and ground cover can vary significantly with the particular topography, microclimate, and extant vegetation of a site.

Also diverse is the wildlife associated with the woodlands. Some of the productivity of the woodland habitats can be explained by the juxtaposition of different habitat types, such as oak savannah comprising oak woodland interspersed with grassland, or the juxtaposition of different woodland sub-types. This juxtaposition creates an ecotone, or ecological edge-effect, a diversity resulting from the two different adjoining habitats. The smaller birds and mammals present in woodland habitats provide a food base for predators such as foxes, coyotes, and bobcats, and for raptors like owls, hawks, and falcons.

The valley oak (*Quercus lobata* Nee) is a special-status plant considered rare within parts of its range by the California Native Plant Society, but it is not State-listed or Federally listed. The California native oaks are receiving increasing attention as a unique vegetative resource that faces strong pressure from development of the Central Valley hillsides; but the wilderness designation for this region eliminates that particular pressure. There is a recent observation of the Mount Diablo fairy lantern from the Devils Hole area of the park. Avian special-status species include the sharp-shinned hawk (*Accipiter striatus*) and Cooper's hawk (*Accipiter cooperi*); these agile hunters prey on small birds inhabiting the canopies of Las Trampas woodlands.

No specific vegetation or animal pests are identified with Las Trampas woodlands.

Riparian/Wetland

All life depends on the availability of water, and abundant or open water has a strong effect on the presence of vegetative species. The specific application of the term "riparian" should be limited to vegetative communities explicitly dependent upon readily-available water, in contrast to what might be more accurately referred to as a streamside assemblage. Streamside assemblages include species that are not explicitly dependent on abundant water, but the vegetative character of such an assemblage is often much denser and more developed than is present in surrounding drier habitats. For example, riparian species include willows (*Salix* spp.) and big-leaf maple (*Acer macrophyllum*), while a streamside assemblage would include a denser, more developed oak/bay woodland community that might also be found on the hillside and not specifically associated with a stream channel. Las Trampas contains several ponds, meadows, springs, and seeps, in addition to the intermittent and perennial creeks that flow throughout the area. Within the boundaries of Las Trampas, Bollinger Creek is intermittent, but it generally has some degree of year-round flow in its downstream reaches, although much restricted or absent during the current drought.

These dense habitats support abundant wildlife with a community structure enhanced by the presence of amphibians, waterfowl, and other species whose occurrence depends on open water. The intermittent availability of water at other springs and seeps also provides focal points for enhanced wildlife activity.

The irrigation pond near the Eugene O'Neill National Historic Site and the constructed trout pond at the Little Hills facility provide additional aquatic habitat for wildlife and vegetation within the region of Las Trampas.

A single special-status plant, a northern California black walnut (*Juglans hindsii* (Jeps.)) is located in the streamside corridor upstream of the main parking lot. Though the black walnut is not specifically listed as a special-status species by State or Federal agencies, the California Native Plant Society regards the species as endangered throughout a highly restricted range. The chain fern (*Woodwardia fimbriata*), not a special-status species, but rather uncommon, can be found in wetter areas. The riparian and wetland areas also provide habitat for the foothill yellow-legged frog (*Rana boylei*), listed as a species of special concern by the California Department of Fish and Game.

No specific animal or plant pests are associated with the riparian/wetland areas, although the bullfrog (*Rana catesbiana*) is a conspicuous introduced species that exerts considerable competitive pressure on native species such as the yellow-legged frog.

Landscaped/Urban

The Little Hills Regional Recreation Area, located near the park roadway entrance in Bollinger Canyon, and the communities of Danville and Alamo, adjacent to the east access and staging areas, are the major landscaped or urban areas associated with Las Trampas. The horticultural management of these areas brings a variety of exotic plant species into the region. Less obvious areas include homesteads long since abandoned.

While these areas can provide varied habitat and food sources for wildlife, the exotic (introduced) nature of these species and the (often) highly managed condition of the urban sites preclude any optimal utilization of the urban landscape by wildlife species.

Picnicking activity concentrated at the Little Hills Regional Recreational Area brings recreationists into contact with the western yellowjacket.

Nearby human habitations may release, inadvertently or intentionally, domestic pets into the region. This release can be as seemingly innocuous as letting the dog or cat out to run, or as deliberate as the abandonment of an unwanted litter. Free-ranging domestic animals can decrease the abundance of native species of small mammals and of ground-

feeding and roosting birds. Released domestic animals can potentially form self-sustaining populations of feral cats and dogs.

Impacts and Mitigation

The Guidelines for the California Environmental Quality Act (CEQA) list a number of conditions that will result in significant impacts to the environment. According to Appendix G, a project will normally have a significant effect on biological resources if it will (1) substantially affect a rare or endangered species of animal or plant or the habitat of the species; (2) interfere substantially with the movement of any resident or migratory fish or wildlife species; (3) substantially diminish habitat for fish, wildlife, or plant species; or (4) expose animals or plants to hazards.

In addition to the Appendix G impacts, the Environmental Checklist Form (Guidelines Appendix I) commonly used in the Initial Study phase asks if a proposed project will result in (1) a change in diversity of plant or animal species; (2) a reduction in the numbers of any unique, rare, or endangered species of plants or animals; (3) the introduction of new species of plants or animals into the area; (4) a barrier to the migration or movement of animals; or (5) the deterioration of existing fish or wildlife habitat.

For the purposes of this EIR, an impact will be considered significant if it results in any of the following:

- loss of any special-status plant or animal species
- loss or degradation of the habitat of any special-status plant or animal species
- substantial loss of plant cover
- loss of wetland or riparian habitat
- increased risk of exposure to wildland fire hazards.

In the management of its multiple resources, the East Bay Regional Park District has the authority to ascribe several designations to its parklands. The wilderness designation for the Las Trampas land invokes several management policies in determining appropriate activities for the parkland. The primary issue in a wilderness designation is to allow natural processes and desirable ecological change to occur; secondary issues involve the appropriate uses of the wilderness resource and maintenance of wilderness values. On the basis of the Draft Resource Analysis (EBRPD, 1991), the overall Land Use-Development Plan (LUDP), the Natural Resource Management Plan (NRMP) contained in the LUDP, and comments heard during a public hearing regarding LUDP alternatives, a variety of issues and potential impacts have been identified.

Vegetation Management

The District's NRMP includes management prescriptions designed to conserve and enhance natural vegetative associations, promote the restoration of indigenous vegetation, preserve and protect populations of unique and uncommon species and habitats, and restrict wildfire potential. Implementation of these management actions would have an overall beneficial impact on biological resources.

Habitat Management

Impact: The District's LUDP would maintain or enhance diversity of the native plant species and control introduced species (except in urban/landscaped habitat). This is a beneficial impact to the area's native vegetation and enhances the park's wilderness designation. Potential management prescriptions identified in the NRMP include grazing, mechanical manipulation, prescribed burning, integrated pest management, habitat protection, and re-seeding of disturbed areas. All these options represent viable means of enhancing native populations and are analyzed in more detail in the following sections of this EIR. Contentious issues (such as chemical treatments, grazing, and pesticide use) are addressed in the LUDP, and include incorporation of best-available management principles, monitoring and assessment programs, and regulatory control measures.

Mitigation: No additional measures are required.

Special-Status Plant Species

Impact: The NRMP would have a beneficial impact on special-status plant species. Vegetation management prescriptions include special considerations for the conservation and protection of habitats that support plant species noted as rare, threatened, endangered, or sensitive. In addition, the siting of facilities, resource surveys, and monitoring programs are incorporated into the LUDP to specifically address the special-status plant species noted in the Setting discussion in this section of the EIR.

Mitigation: No additional measures are required.

Fire

Impact: The threat of wildfire is pervasive in rural California. The ongoing encroachment of urban and suburban elements into the wildlands of California produces a greater possibility for catastrophic fire. In general, the grassland and shrubland habitats and, to a lesser degree, the woodland habitats, present the potential for wildfires in Las Trampas. A second concern is to minimize the fire hazard associated with human use of Las

Trampas. Even with measures in the NRMP, the wildland fire hazard remains a significant unavoidable impact.

Mitigation: Several of the vegetation management methods identified in the NRMP provide for decreased potential of catastrophic wildfires. Grazing and prescribed burning are the primary vegetation management tools, and would be employed in accordance with range management practices established by the District. Although grazing is considered by some to be contrary to the "wilderness" status of the parklands, the proximity of the parklands to urban development justifies an enhanced level of protection that might be excluded in more remote settings. While prescribed burning presents a potential significant environmental impact due to the possibility for escape (which could, for example, impact sensitive-species habitat), careful consideration of the existing conditions and maintenance of water tanks and ponds by the EBRPD Fire Chief would minimize the likelihood of accidents. In addition, modifications to the trail system to provide greater service/fire road access enhance the ability of the District to combat wildfires. The fire hazard is further reduced by the following measures identified in the NRMP.

- Establish a "no campfire" policy in all wilderness sections of the park.
- Allow fire/barbecue activity only in designated facilities (the reservation picnic park, stables, campgrounds, and the Las Trampas main staging area and picnic areas) that are sufficiently separated from vegetation that could fuel a wildfire.
- Close the park when weather conditions indicate high hazard or the State issues a "Red-Flag Alert."

Animal Species Management

Wildlife management practices identified in the NRMP are designed to conserve and enhance existing native species composition and diversity at ecologically appropriate population levels and to preserve and protect unique and uncommon species. Often included in activities for wildlife management is the concurrent management of vegetative habitat and communities.

Wildlife Habitat and Species

Impact: The LUDP would have a beneficial impact on wildlife habitat and species through the efforts proposed to conserve and enhance native vegetation and reduce the potential for human disturbance in wildlife areas (particularly riparian areas). The LUDP would result in improved aquatic habitat in Bollinger Creek. Actions identified in the LUDP and NRMP to reduce erosion and pollution and to prevent introduction of non-

native and/or hatchery-reared fish into Bollinger Creek would have a beneficial impact on native fish resources.

Mitigation: No additional measures are required.

Special-Status Animal Species

Impact: Activities in the chaparral habitat and adjacent areas have the potential to adversely affect the Alameda whipsnake. While no new trail construction is planned for the chaparral habitats, the existing Las Trampas Ridge trail would be designated for vehicular (service and fire) use, which would require brush removal, and the eastern end of the existing Ohlone trail would be redesigned for riding access. Improved access provided by the trails may inadvertently enhance activities that are detrimental to the whipsnake (e.g., off-trail riding), or create conditions that degrade the habitat (e.g., increased erosion, loss of vegetation).

Mitigation: To reduce the potential for significant adverse impacts, the LUDP indicates that the District would implement the following mitigation measures:

- Construction activities would restrict clearing of vegetation to only that necessary to provide for the trail corridor.
- Regularly scheduled trail maintenance activities would include observation of erosion potential and habitat loss along trails, and would pay particular attention to the chaparral and adjacent habitats where the Alameda whipsnake is known to occur. If erosion or degradation of habitat is observed, erosion control measures would be implemented and/or the trail would be closed temporarily.

Impact: Resource management and recreational activities in the park could affect a variety of other special-status species known to occur, or potentially occurring, in Las Trampas.

Mitigation: The NRMP details implementation measures for conservation and enhancement of activities and habitat for individuals and populations of several special status species (bald and golden eagles, peregrine and prairie falcons, Cooper's and sharp-shinned hawks, badger, ringtail, great blue heron, and foothill yellow-legged frog). These measures would be implemented by the District's wildlife biologist who is cognizant of both the specific needs of these species and the associated repercussions of the timing and location of the activities that may occur. Delays in implementing additional population surveys could occur due to budget constraints; but this would not result in insufficient mitigation as long as site-specific surveys are done prior to construction of new facilities,

grading of trails through special-status species habitats, and prescribed burning in or adjacent to these habitat areas.

Pest and Feral Animal Management

District policies that conserve and enhance natural vegetative associations also include specific activities to reduce the adverse effects of plant and animal pests. Resident or transient feral animals and domestic pets are recognized as potential sources of adverse impacts to Las Trampas.

Impact: Unmanaged populations of introduced plant pest species can outcompete existing vegetation, reduce recreational, grazing, and wildlife utilization of an area, and degrade the suitable features of the habitats in which they occur. For example, although the grassland habitats are dominated by introduced species, the general grassland ecological features are maintained; if unchecked, the exotic thistles could dominate the grassland profile and eliminate less-competitive but more-desirable grasses and forbs.

Mitigation: The NRMP includes several vegetation management methods that are applicable to vegetative pest management: manual removal, pesticide use, or intensive habitat management practices (mowing), depending on the specific situation. With implementation of these measures, no adverse impact is expected.

Impact: Certain recreational activities, such as camping and picnicking, attract food-seeking yellowjacket wasps. The District would install covered trash receptacles in developed picnicking and staging areas, coupled with frequent garbage collection, and implement a public-awareness educational program (flyers, notices, exhibits) as means of reducing the ubiquitous threat of wasps.

Mitigation: No additional measures are required.

Impact: The native California ground squirrel, once established in a preferred habitat, can degrade that habitat through its extensive burrowing. In campground/picnic areas, their presence in large numbers can pose a potential threat to human health and safety as a disease reservoir. This impact is not significant, because of measures included the NRMP.

Mitigation: The NRMP includes several measures to monitor and manage these potential pests, within accepted District practices. Physical habitat modification is listed in the NRMP as the preferred management method, but does not exclude the use of rodenticides to manage ground squirrel numbers that exceed the accepted District threshold (25 animals per 1/4 acre). Because the ground squirrel is a food source for raptors and mammalian carnivores, the use of rodenticides to manage ground squirrel

numbers would be selective, and applications would be made in a manner that minimizes potential nontarget, secondary poisoning hazards. Physical modification of the habitat (deep plowing of burrow systems, removal of attractive features [e.g., logs, rock piles]) will be carefully evaluated and monitored so that these activities do not disturb habitat that is used by other wildlife species. The vegetation and wildlife management plans mentioned previously that conserve and encourage the presence of predatory species would also aid in providing ecological means of population regulation.

Impact: Feral released domestic animals and introduced animal and fish species are present in portions of Las Trampas. These organisms are significant competitive threats to native organisms, and are inappropriate inhabitants of a designated regional wilderness. The NRMP provides specific measures for the removal of these animals that would have a beneficial impact on the conservation, establishment, re-establishment, and enhancement native species of populations.

Mitigation: None required.

Park Facilities

Trails

Impact: The LUDP would remove several little-used trails. Such actions would reduce human disturbance in wildlife areas and promote biological resource protection. The LUDP trail removals would have a beneficial impact on biological resources by allowing these trails to revert to an undisturbed condition and by removing human disturbance.

Mitigation: None required.

Impact: The Plan would add two new hiking and riding trails (Rocky Ridge/Elderberry connection and Bollinger Canyon Road Bypass), convert two hiking/riding trails from one-track to two-track use, and modify several trails: Ringtail Ridge, Skyway South (with permission from EBMUD), part of Devils Hole, Las Trampas Ridge, and part of Ohlone. New construction of trails and modification of existing trails to service status would result in the removal of vegetation from the trail corridor. Modification of trails to riding or fire-access status would remove more vegetation than would be required for a hiking-only trail, but the access provided to emergency crews is beneficial for maintenance operations and fire management. Because these actions would not occur in Special Protection Units (i.e., special-status species and habitat areas for species of concern) the impacts are less than significant.

Mitigation: None required.

Impact: Trail construction and improvement practices could affect the terrain adversely by enhancing the potential for erosion.

Mitigation: To mitigate this potential impact, the LUDP includes the following:

- Trail layout would avoid direct uphill or downhill alignments to the maximum extent practicable and would traverse slopes wherever possible.
- Trails in riparian/streamside locations would be located away from the active stream channel to minimize the potential for bank erosion, washout, and pollution. Future development would be excluded from a riparian protection zone extending from the top of the bank of Cull Creek to 50 feet on either side.
- The District would construct waterbars or other control measures along trails where runoff presents an erosion hazard.

Impact: Trail siting and use may affect other notable animal species (i.e., not yet designated as special-status but with potential for listing) observed or potentially present in the wilderness, as identified in the NRMP.

Mitigation: The NRMP identifies several mechanisms that would be used to minimize adverse impacts to these species: siting of trails to avoid Special Protection Units, temporary closure of trails, public education, prey food-base management, habitat management, and management of non-native and/or feral competitors.

Parking Lots

Impact: Improvement of existing staging areas and access points entails construction of parking lots. Parking lots may adversely affect the area where they are sited through removal of vegetation or through the activities associated with vehicle parking, such as increased trampling of nearby vegetation. The LUDP concentrates additional parking near the existing lot at the Life Estate and along Bollinger Canyon Road which primarily affects grassland. This impact is less than significant as long as no special-status species are affected.

Mitigation: Parking lots could be designed to minimize clearing of vegetation and to avoid clearing of trees.

Impact: New staging areas and access (including service road access) along the eastern boundary of the park could have adverse impacts on special-status plants and animals.

Because the exact location of several of these facilities is unknown, the impact must be considered potentially significant. This EIR identifies the following measures to reduce the impact to a less than significant level.

Mitigation: Before a site is designed and facilities are built, District biologists would survey the selected area for the presence of special-status species or sensitive habitats. If these would be disturbed, the facility would be redesigned to reduce impacts, avoid these areas or an alternative location determined.

Nature Center

Impact: The siting of the nature center and the activities associated with it could have adverse effects similar to those associated with the parking facilities (e.g., removal of vegetation, trampling). The proposed location of the facility has been chosen to avoid Special Protection Units, so this is a less-than-significant impact. (It was moved from the original location to a less-sensitive grassland setting on the other side of the creek.)

Mitigation: None required.

Stable Facilities

Impact: The LUDP includes removal of existing pens and corrals adjacent to Bollinger Creek. The District would allow the existing streamside areas to revegetate naturally, or it may enhance their recovery by planting native riparian/streamside vegetation. This provides a benefit by removing the facilities from the streamside setback areas.

Mitigation: None needed.

Impact: The creation of new paddock areas (less than 5 acres total) would result in the removal of vegetation through grading and through grazing by horses. This vegetation loss is a less-than-significant impact, because it is to occur in a grassland area with no special-status species present and/or in already-disturbed area.

Mitigation: The grassland paddock was inspected by District personnel and was found not to contain special-status plants or animals. It is located away from whipsnake habitat. Since the alternative paddock would be located outside of the park (at Holly Court) in an area not already surveyed for special-status species, a District biologist would need to inspect the site prior to any further disturbance if this alternative is to be implemented. An alternative location at Holly Court would need to be selected if the preferred site contains special-status species. Since the site is disturbed grassland, it is unlikely that special-status species are present. No additional mitigation measures are necessary.

4. CLIMATE AND AIR QUALITY

While climate and air quality are significant regional concerns, the issues associated with management of Las Trampas Regional Wilderness and Little Hills Regional Recreation Area are generally thought to be of local interest and less-than-significant environmental impacts.

Setting

Bollinger Canyon and the Corduroy Hills area contain most of the acreage of Las Trampas. Although these areas lie west of the San Ramon Valley (the urban Interstate 680 corridor), their general climatological setting is influenced more strongly by the continental inland climate than by the maritime influence of the ocean and San Francisco Bay. Lacking the moderating influence of the maritime climate, temperatures in Las Trampas and vicinity vary more widely than in more westerly locations. Summertime temperatures can exceed 100 degrees F, and wintertime temperatures sometimes drop below the freezing point. Rainfall within Las Trampas is generally typical for the East Bay Hills, and often exceeds the rainfall documented in lower-elevation urban settings in the San Ramon Valley. (Section IV.B.1 presents precipitation information).

Las Trampas generally does not receive the summer fog so common throughout much of the Bay Area, because the higher-elevation hills west of the wilderness block the eastward movement of fog masses from the Bay.

Wind patterns in the region are influenced by the complex interactions of the continental and maritime climates. As inland air is warmed by insolation, creating a low-pressure zone, cooler air moves eastward from the maritime region, and the winds generally flow toward the east in Las Trampas. Westward-blowing Diablo or Santa Ana wind conditions create the greatest fire hazard, and these are infrequent. The general eastward pattern has the fortuitous benefit for Las Trampas of preventing the movement of polluted air masses from the San Ramon Valley into the park, and instead tends to flush the pollutants away from the region toward Pleasanton and Livermore. In general, the air quality of Las Trampas area is somewhat better than that of other areas of the East Bay.

Impacts and Mitigation

According to CEQA Guidelines Appendix G, a project will normally have a significant environmental effect if it will (1) violate any ambient air quality standard, (2) contribute substantially to an existing or projected air quality violation, (3) expose sensitive receptors to substantial pollutant concentrations, or (4) expose people or animals to hazards.

The regional meteorological issues associated with the Las Trampas LUDP (and NRMP) are minimal because of the primary localized impacts which would not extend beyond the immediate area. The existing (and proposed) Las Trampas Stables and associated facilities present the possibility for a localized air quality (odor) nuisance. Vegetation management would include prescribed burning, and traffic activity associated with Las Trampas and Little Hills are issues that may minimally affect local climatological conditions.

Impact: Traffic activity could, in principle, increase the pollutant load in Bollinger Canyon. Because the project will accommodate current future wilderness users and visitors to the nature center resulting from planned population growth in the park's service area but not stimulate substantial growth of the user population, traffic activities are expected to remain stable, with slight increases over time primarily in response to population growth. Thus, the project does not cause an overall significant increase in the traffic handled by the existing and planned facilities, and air quality impacts are less than significant. (See Section IV.9 for a discussion of traffic impacts.)

Mitigation: None required.

Impact: The use of prescribed burns as a vegetation management tool could produce significant impacts on local air quality. In addition to measures contained in the LUDP to control wildland fires, this EIR identifies additional mitigation as follows.

Mitigation: Prescribed burns would be conducted in accordance with (BAAQMD) regulations.

Impact: Dry and dusty conditions prevail from late spring through fall in all but the moist streamside and woodland habitats within Las Trampas. Recreational or management activities on unvegetated ground and facility construction (parking areas and nature center) can generate dust that is a potential nuisance and an adverse air quality impact. The horse paddock, corral, and stable facilities constitute another potential source of dust. Although there can be intensive activity associated with these facilities, the general threat of dust generation (beyond short-term construction) is thought to be minimal (less than significant).

Mitigation: The NRMP notes that management activities that potentially generate dust would be confined to periods of low wind. No additional mitigation measures are required or recommended.

Impact: The demolition of structures in Holly Court for the purpose of service facilities could have short-term adverse impacts on air quality due to dust. Of greater significance is the presence of asbestos-containing material in the buildings, specifically in sheet

flooring and duct insulation. Asbestos-containing materials pose no threat to health unless fibers become airborne during demolition.

Mitigation: The following measures identified in this EIR would reduce this hazard to a less-than-significant level:

- All buildings would be subject to asbestos abatement according to State and Federal regulations. Wastes would be double-bagged, handled, manifested, and disposed of as friable asbestos wastes at an EPA approved landfill authorized to accept asbestos wastes.
- Water sprinkling would be used to minimize airborne dust particles during demolition.

Impact: The Las Trampas Stables could produce an odor nuisance.

Mitigation: The LUDP includes a manure management program for the main stable area and adjacent paddocks which should minimize the potential for nuisance to both on- and off-site residences.

5. NOISE

Setting

Las Trampas Regional Wilderness is surrounded by relatively quiet land uses. To the north are undeveloped lands, Las Trampas Canyon, and a few houses. Adjacent to the eastern border of the wilderness (Corduoy Hills) are residential neighborhoods. The I-680 freeway corridor is nearly two miles from the top of Las Trampas Ridge and one mile from the base. To the south, along Bollinger Canyon Road, are the premises of the TRACOR Aerospace Corporation, the CDF and EBRPD offices, and rural residences.

The Little Hills picnic park is the major source of noise within the park. Noise from crowds, amplified music, and game and event announcements are audible in Bollinger Canyon and on the hillsides above. Persons residing close to Little Hills have complained about the noise in the past. The concessionaire at Little Hills has reduced the volume of the public address system and reoriented the loudspeakers to reduce the noise impacts to adjacent residents. Other noise sources are traffic and parking activity in the Bollinger Canyon Road area and occasional aircraft overflights.

The Las Trampas to Mt. Diablo Regional Trail would be located along a quiet residential street in Danville which dead-ends near the park boundary. Two new staging areas are

proposed to be located in this residential neighborhood, near the edge of the park. A third staging area is proposed at the existing Rancho Romero School.

A simple definition of noise is unwanted and disturbing sound. The human response to environmental noise varies considerably from individual to individual. The effects of noise can range from interference with communication to causing physiological and psychological stress and, at the highest intensity levels, to hearing loss. Sleep disturbance can occur when interior noise levels exceed 40–50 dBA. (To approximate the sensitivity of the human ear, environmental sound is usually measured in A-weighted decibels [dBA]); the normal range of human hearing extends from about 0 dBA to about 140 dBA.) The passage of a heavy truck can generate sound of 90 dBA (at 50 feet).

Environmental noise fluctuates in intensity over time. The three most commonly used descriptors of time-averaged noise levels are Leq, Ldn, and CNEL.

- Leq, the energy equivalent noise level, is a measure of the average energy content (intensity) of noise over any given period of time.
- DNL or Ldn, the day-night average noise level, is the 24-hour average of the noise intensity, with a 10 dBA "penalty" added for nighttime noise (10:00 p.m. to 7:00 a.m.) to take the greater sensitivity to noise during this period into account.
- CNEL, the community equivalent sensitivity to noise level, is similar to Ldn, but adds a 5 dBA penalty to evening noise (7:00 p.m. to 10:00 p.m.). In situations where vehicles are the dominant source of noise, Leq for the peak commute hour, Ldn, and CNEL of the same noise source usually differ by less than 2 dBA and are easily compared.

Contra Costa County's compatibility standards for low-density residential uses are 50-60 Ldn or CNEL for "normally acceptable" and 55-70 Ldn or CNEL for "conditionally acceptable." The residential neighborhood to the east of Corduroy Hills is affected by traffic noise from I-680 (Contra Costa County, 1991). Noise contour maps for the year 2005 indicate that the neighborhood including Camille and Hemme Avenues is located in the projected 60-65 DNL (24-hour average noise level) and CNEL noise contours. Future noise levels along Danville Boulevard from Stone Valley Road to El Portal are projected to be 60 DNL at 100 feet from the boulevard. Except for the Rancho Romero School staging area, the two new staging areas would be located close to the Las Trampas park boundary, which is outside of the future noise zone.

Impacts and Mitigation

Appendix I of the CEQA Guidelines addresses potential noise impacts from the standards of (1) increases in existing noise levels and (2) the exposure of people to severe noise levels. Of concern is a substantial increase in the ambient noise level in sensitive areas adjacent to the project site. For this EIR, the change in ambient noise levels due to project implementation would not constitute a significant impact unless land use compatibility standards for noise were exceeded over the long term (i.e., not short-term construction noise).

Impact: Light traffic is estimated to be approximately 48 decibels (dB) at 100 feet from the noise source (Contra Costa County, 1991). Since the staging areas are not expected to generate significant traffic volumes, they would not affect ambient noise levels at present or in the future. A person's subjective reaction to noise is affected by the increase in noise over an existing level. A change in level of at least 5 dB is necessary before any noticeable change in community response would be expected (Contra Costa County, 1991) and a level this large is not expected to occur due to light traffic on residential neighborhood streets.

Mitigation: None is required.

Impact: Construction of a nature center, a parking lot, and staging areas and modification of existing trails for fire access would entail limited amounts of grading activity. Use of heavy equipment for grading would generate temporary high noise levels. Noise impacts associated with construction activities would be less than significant, because of the intermittent and relatively short-term nature of construction activities and the few residences close to the proposed staging areas, trails, and Little Hills facilities.

Mitigation: The District would operate during daylight hours (consistent with local noise ordinances), eliminating nighttime noise impacts on nearby residences.

Impact: Traffic noise in Bollinger Canyon area would increase over time with increased use due to population growth and the presence of the nature center. On-site noise levels associated with parking, picnicking, staging, and visiting activities in the Bollinger Canyon area would increase during periods of maximum use. In general, increases in ambient noise levels off-site are expected to be minimal. Increased vehicle trips on Bollinger Canyon Road would not be great enough to generate noise increases that exceed land use compatibility standards or result in significant noise impacts to existing residents. The reservation picnic park facility would continue to orient loudspeakers away from nearby residences.

Mitigation: None required.

Impact: Development of one or two new staging areas on the east side of Corduroy Hills (off Camille Avenue and/or Hemme Avenue) could include 10–40 parking spaces at each location, for a maximum of 80 spaces (not counting the use of 10–20 existing spaces at Rancho Romero School). Additional staging areas would be located on the southeast side of Las Trampas and in south Danville. Because traffic would occur primarily on the weekends during daylight hours, increases in traffic on roads accessing the staging areas would not be significant. Other noise associated with use of the staging area would have a less-than-significant impact on adjacent property owners: the parking lots would be used by park visitors who are unlikely to come and go frequently, and three of the new lots would be designed at the end of public roadways in consideration of existing and future residential development. The staging areas are proposed for property bordering Las Trampas at the ends of Camille Avenue, Hemme Avenue, and Cull Canyon Road. Existing uses nearby include primarily residences. Auditory impacts from authorized use of the lots would be less than significant or barely perceptible. Unauthorized use (nighttime) poses potential adverse impacts.

Mitigation:

- In each case, the siting and design of the staging areas would be sensitive to existing land uses (e.g., include landscape buffering, maximize distance from homes, minimize visibility from the public right-of-way). While measures such as landscape buffering affect the visibility of the staging area rather than physically blocking noise, the reduced visibility has a psychological effect on the perception of noise which is subjective.
- Strictly enforce the District hours of operation, dawn to dusk. Gates would be used to discourage night use.
- Prior to opening the staging area, involve surrounding neighbors in an orientation/park watch program.

6. VISUAL RESOURCES

Setting

Las Trampas Regional Wilderness is located in the rapidly growing area of central Contra Costa County. Suburban and rural development surrounds the park on the north and east, with rural development to the south, and open space associated with East Bay Municipal Utility District lands to the west. The approximately 3,500 acres which make up Las Trampas Regional Wilderness consist of four landscape character units: Las

Trampas Ridge, Rocky Ridge, Bollinger Creek, and the regional trail and east side staging areas.

Las Trampas Ridge

The northwest-southeast trending Las Trampas Ridge encompasses more than half of the main regional wilderness, as well as most of the smaller wilderness parcels located to the south. The east-facing slope of Las Trampas Ridge rises steeply to nearly 1,800 feet (msl) and above the communities of Alamo and Danville to form a jagged ridgeline of spiny peaks and rocky outcroppings heavily vegetated with scrub, oak, and chaparral. The ridge is undeveloped except for single track and fire-road trails that provide hiking, biking, and equestrian access to, and fire protection for, the wilderness. The trails are not noticeable from most off-site locations, because the slope is heavily vegetated.

Las Trampas Ridge is a major scenic feature in the central Contra Costa landscape and provides dramatic views of open space, trees, and rugged terrain to off-site viewers. Rising to an elevation of nearly 1,500 feet above the San Ramon Valley, Las Trampas Ridge is visible from several travel corridors (I-680, Highway 24, I-580), communities (Alamo, Danville, San Ramon, Walnut Creek, Lafayette), and other regional and state parks (Mount Diablo, Briones, Redwood, and Chabot).

Expansive distant views of the San Francisco Bay region are available from Las Trampas Ridge on a clear day. To the west there are distant views of San Francisco and Mount Tamalpas; to the north and east, Mount Saint Helena and the Sacramento River Delta; and to the east and south, Mount Diablo and the San Ramon and Livermore valleys. Distant views to the west are blocked by Rocky Ridge. Near views to the north are of a few large-lot residential developments and Las Trampas Creek Canyon. To the east one looks down the ridge into the residential neighborhoods of Alamo and Danville. To the south and west, Rocky Ridge Trail, a paved road, and a telecommunication tower can be seen on Rocky Ridge.

Rocky Ridge

Rocky Ridge is located to the south and west of Las Trampas Ridge. Rising to an elevation of 2,000 feet, Rocky Ridge is similar geologically to Las Trampas Ridge but more rounded in form. Rocky Ridge has been more heavily grazed than Las Trampas Ridge, and therefore it consists predominantly of rolling grass-covered knolls divided by swales of oak and bay trees and occasional riparian vegetation. Because Rocky Ridge is located east of Las Trampas Ridge, only the upper portions of the ridge, including the telecommunication tower, are visible from distant locations such as Lafayette, Walnut Creek, and the San Ramon Valley.

Development on Rocky Ridge consists of several trails, including a paved road, and a telecommunication site within EBMUD land. The trails provide hiking, biking, and equestrian access. These trails cross the grass-covered slopes of Rocky Ridge and are more visible than the trails on the east side of Las Trampas Ridge.

Views from Rocky Ridge are similar to those from Las Trampas Ridge, although generally more confined. To the north, east, and south, distant views are dominated by Las Trampas Ridge, with views of Las Trampas and Bollinger Creek canyons, Las Trampas Stables, the Little Hills picnic park, TRACOR, the California Department of Forestry and East Bay Regional Park District offices, and a few residences. To the west are expansive views of undeveloped rolling hills owned by the East Bay Municipal Utility District.

Bollinger Canyon

The Bollinger Canyon portion of the Las Trampas Wilderness separates the Las Trampas Ridge unit from the Rocky Ridge unit. A perennial stream, Bollinger Creek, has its headwaters near the northern point of the two ridges and flows in a southeasterly direction alongside the Creek and Grass Valley trails and Bollinger Canyon Road. Mature oaks and bays canopy the streambed, and the understory ranges from barren soil to grasses and shrubs.

Downstream of the gate that marks the end of Bollinger Canyon Road, the character of the creek area changes from non-motorized-wilderness to motorized-rural. Developed facilities located along Bollinger Canyon Road are the Las Trampas parking lot (about 35 parking spaces), the Little Hills picnic park, Las Trampas Stables, and Las Trampas picnic sites, trails, and trailheads. The concentration of facilities and traffic associated with their use detracts from the scenic character of the creek corridor. The overstory of trees in the canyon area screens views of the area from most other locations in the wilderness, although there are some distant views from the top of adjacent ridges.

Regional Trail and East Side Staging Areas

The Las Trampas to Mt. Diablo Regional Trail would access Las Trampas Regional Wilderness through the quiet, dead-end, residential street of Camille Avenue in Alamo. Houses along Camille are set back from the road, and landscaping and mature trees separate the residences from the street. There is no sidewalk along the north side of the street, and plantings and fencing extend to the curb in most areas. A construction business is located at the end of Camille Avenue. The alternative trail route is Hemme Avenue, which is similar in character to Camille but narrower.

Impacts and Mitigation

According to CEQA Guidelines Appendix G, a project will normally have a significant effect on the environment if it will have a substantial, demonstrable negative aesthetic effect. Standards for evaluation of aesthetic impact include the obstruction of any scenic vista or view open to the public or the creation of an aesthetically offensive site open to public view.

Potential visual impacts associated with the changes proposed in the Land Use Development Plan for the Las Trampas Regional Wilderness are discussed below. The visual effects of proposed park-wide management policies and facility development are discussed first, followed by discussion of the visual impacts and mitigations for each of the four landscape character units.

Impact: In addition to specific developments in each of the landscape units, a change in use policy and the establishment of resource management objectives which apply to all areas of the park are likely to have some visual effects; however, none will be significant. Although the banning of bicycles may reduce the total number of people experiencing the scenic qualities of the wilderness, reduced erosion from bicycles may be visually beneficial. Resource management designed to prevent wildfires would preserve the high scenic quality of the wilderness, so it can be enjoyed by others in the future.

Mitigation: None required.

Las Trampas Ridge

Impact: Several changes in trail conditions are proposed for the east slope of Las Trampas Ridge. The closure of four rarely used trails could have beneficial visual effects, although most of the trails are indiscernible now from any external viewpoint. The development of hiking and equestrian trails and service and fire access trails, and the improvement of existing trails for fire access may result in short-term visual effects from increased exposure of soil, but the changes would be relatively small and unnoticed from distant locations. Long-term visual effects are anticipated to be less than significant, because minimal grading, cutting, and filling are proposed, and the densely vegetated character of the slope would soften visual contrasts and screen trails.

Mitigation: None required.

Impact: An objective of the LUDP is to protect views from Las Trampas Ridge, especially along the eastern and southern park boundaries. Implementation would require coordination with Contra Costa County and the cities of Danville and San Ramon to minimize visual impacts from future projects in these areas. This coordination would

involve monitoring and review of development proposals in adjacent jurisdictions, which is expected to have a beneficial impact on maintaining views from the park.

Mitigation: None required.

Rocky Ridge

Impact: The changes proposed for Rocky Ridge are the development of a staging area and changes in trail conditions. The proposed changes would result in either beneficial or less-than-significant impacts on visual resources. The staging area would result in less-than-significant visual impacts because the area would be small, blend in with the surrounding landscape through the use of materials and design, and would not contrast visually with the wilderness character of the area.

Mitigation: None required.

Impact: Changes in trails could have short-term visual impacts while the trails are being built, but the long-term effects would be beneficial. One hiking/equestrian/service trail near the top of the ridge would be modified, re-routed, and widened to improve fire access, and another hiking trail (connecting Elderberry and Rocky Ridge Trail) will be developed for hiking and riding at midslope. Although trail modification and development would result in increased exposure of soil, the changes would not dominate in the landscape character of Rocky Ridge, and the provision of fire protection may prevent catastrophic fires which would have severe adverse visual impacts until they are revegetated.

Mitigation: None required.

Bollinger Canyon

Most of the development associated with the Land Use-Development and Resource Management Plans for Las Trampas Regional Wilderness would be concentrated in the Bollinger Canyon area. The design concept of concentrating uses in a single area of the park that is not highly visible from other areas is consistent with the 1989 Master Plan goal which states "Whenever possible the District would group constructed facilities at the edge of the parklands to preserve open space" (EBRPD, 1988).

Impact: The cumulative effect of adding as many as 100 parking spaces, 50 picnic sites, and a 3,500-square-foot nature center south of the existing parking lot may result in a significant change of visual character in Bollinger Canyon near the existing gate. The present rural character and scenic qualities of the creek corridor may be altered to a more urban park character by increased use. In addition, the natural creek corridor may be

dominated visually by parking lots, trails, and picnic tables and the activity associated with use of these facilities. The LUDP includes the following measures.

Mitigation:

- The nature center would be a small structure located to the west of the creek near the existing trails and parking lot, as well as the proposed parking and picnicking areas. The structure would be designed in accordance with EBRPD guidelines, which require facilities to blend in with the existing landscape.
- The timing of development of parking lots at Bollinger Canyon would be based on review of adequate and expected increases in demand. Efforts to reduce demand for parking, particularly at peak times, would help maintain and protect the riverine character of the creek corridor near the Wilderness entrance on Bollinger Canyon Road.

Impact: The LUDP includes development of a new rental horse paddock area at the 50 Acre Pasture site adjacent to TRACOR. Although this paddock would not be visible from Bollinger Canyon Road or the existing Bollinger Canyon staging area, it would be visible from interior park trails, particularly the Rocky Ridge Trail. Grading and leveling associated with the new paddock will expose barren soil and change the slope of the existing hillside. These changes would have a visual impact on park views, however, this impact is not expected to be significant due to the relatively small size of the paddock (2.5 to 3 acres) and its proximity to the existing TRACOR site. In addition, the new paddock would allow the District to reduce the size and utilization of the existing Eastern Paddock located on Bollinger Canyon Road, which would have a beneficial impact on the Park's aesthetic quality. Visual impacts associated with the new paddock area would be greatest during and immediately after construction activity. Over time, as the graded slopes revegetate, the site would become less noticeable to trail users. Site design and grading activities to control surface run-off would prevent the development of future visual impacts associated with erosion.

Mitigation: None required.

Impact: The LUDP includes a reduction in the size and use of the existing Eastern Paddock, to reduce water pollution impacts and improve the area's visual quality. Specific actions impacting visual resources include: reducing by 15 acres the amount of disturbed area; seasonal use (avoiding the wet season); fence adjustments; and planting for visual screening. All these actions would have a beneficial impact on the visual quality of the area.

Mitigation: None required.

Regional Trail and East Side Staging Areas

Impact: Development of a regional trail from I-680 through Hap Magee Park to the East Side staging area at the end of Camille Avenue would entail use of the public right-of-way, signing, and a crosswalk across Danville Boulevard. Horses and hikers are common in the Alamo/Danville residential areas on the east side of Las Trampas. These actions would not change the existing visual character of Camille Avenue or otherwise significantly impact visual quality.

Mitigation: None required.

Impact: The development of several new East Side staging areas at the base of Las Trampas Ridge would not result in significant visual impacts on adjacent land uses. The District's development policy is that "the District would design proposed facilities so that their color, scale, style, and materials would blend with the natural environment," and the 1989 Master Plan goals include the following: "the District would be a 'good neighbor' to adjacent owners by managing its resources and planning, developing, and operating in a manner that does not conflict with adjacent management practices or that reduces impacts to the greatest extent possible" (EBRPD, 1988). Each staging area would be designed to comply with these goals.

Mitigation: In developing the staging areas, the District would purchase sites that are located as far away from existing residences as possible.

7. ARCHAEOLOGICAL AND HISTORICAL RESOURCES

Setting

Prehistoric and historical uses of Las Trampas appear to have been limited to migratory Native American hunting camps and a few isolated homesteads. The area's rugged landscape has likely always been a major contributing factor in restricting human uses of the area.

Records suggest that the parklands were once occupied by a group of Bay Miwoks known as the Saclan. The Saclan used the parklands primarily as hunting and gathering grounds, taking advantage of the area's abundant food sources: acorns, buckeye, and various berries; game animals such as deer, elk, and antelope; and perhaps trout and steelhead, which are thought to have occurred in Bollinger Creek. The more rugged areas of the park were probably used far less by the Saclan than the flatter valley of the park and the nearby San Ramon Valley. Native American populations in the area were dramatically reduced from the early to middle 1800s through the establishment of the Spanish mission system and other European influences.

European settlement in the surrounding area began to occur in the mid-1800s. However, the rugged nature of the parklands severely restricted settlement and development. The one exception was the Bollinger Canyon area, which was first settled in 1855 by Joshua Bollinger. Evidence of historical uses in the park include old orchards, fencing, wells, trash dumps, and possible structural remains. Most of the structures in the park have been removed.

In 1937, the noted playwright Eugene O'Neill built a home (Tao House) at the eastern boundary of the park. Tao house is currently maintained and operated as a National Historic Site by the National Park Service and is not located within the Las Trampas Regional Wilderness. However, portions of the O'Neill estate, including historic orchards, a pet cemetery, two entrance pillars, and three water tanks, are on District lands.

An archaeological reconnaissance of the Las Trampas Regional Wilderness conducted in 1989 to inventory cultural resources within the park boundaries found very little evidence of any significant prehistoric or historic resources in the park. Prehistoric finds were limited to one possible chert core fragment and one possible hammerstone. Both finds were isolated and of uncertain origin. Historical resources were more abundant, but were determined not to be significant: the survey team concluded that none of the resources noted during the inventory process merited recording as either prehistoric sites or significant historic resources (Holman 1989).

Impacts and Mitigation

A significant adverse impact on cultural resources occurs when a project eliminates important examples of the major periods of California history or pre-history. A project that disrupts or adversely affects a cultural resource is normally considered to have a significant impact, according to CEQA Guidelines Appendix G.

The lack of known substantial cultural resources in the park minimizes the potential for recreational developments or resource management actions to impact cultural resources. However, there is always a possibility that the park may contain significant cultural resources that have not been discovered. In addition, the general locations of historic resources identified in the archaeological survey represent potentially sensitive areas that should be avoided where possible.

Impact: The new nature center and parking area in Bollinger Canyon (located at the site of the old "Life Estate," Figure III-9) is in a potentially sensitive cultural resource area. However, the potential for adverse impacts to cultural resources is low. No significant cultural resources, either historic or prehistoric, have been identified. The "Life Estate" was identified in the cultural resources inventory as a recent (less than 50 years old) historic feature exhibiting only isolated cement footings and structural trash. Development

of a small parking area at this site would not compromise the limited integrity of the site. Surfacing (gravel, or paving) would actually serve to protect any subsurface cultural resources that may be present. To prevent adverse impacts, the District would implement the following measures.

Mitigation:

- Development activities would avoid identified cultural resource features such as old orchard trees and spring boxes.
- If any cultural resources are uncovered during construction of the nature center or parking areas, all work activities would cease until such resources could be properly identified and inventoried. A decision to continue construction of the planned facilities would be made at the time based on the significance of the discovered resources.

Impact: Archaeological and historic resource investigations have not been conducted at the proposed East Side/Cull Canyon staging areas, because they have not been sited specifically. When specific sites are selected, investigations would be conducted prior to obtaining building and grading permits for construction. A cultural reconnaissance would be conducted, and identified significant resources would be avoided. If any previously unidentified cultural resources were uncovered during construction, all work activities would cease until such resources could be properly identified and inventoried. Any decisions to continue construction of the planned facilities would be made at the time based on the significance of the discovered resources.

Mitigation: No additional measures are required.

8. RECREATION

Setting

The Las Trampas Regional Wilderness, including Little Hills Regional Recreation Area and the Las Trampas to Mt. Diablo Regional Trail, offers a diversity of recreational settings and a wide range of recreational opportunities. The park's setting, including its recreational facilities, is described in detail in Section III.E. of the LUDP. The following discussion provides a brief summary of that information by park unit, with emphasis on existing recreational opportunities.

Las Trampas Regional Wilderness

The regional wilderness itself provides outstanding opportunities for dispersed semi-primitive recreation characterized by quiet, solitude, and respite from urban life. The park is dominated by rugged topography and expansive open space that both provides for and constrains recreational activities. The park's dramatic landscape (with its outstanding natural scenery and commanding views) and relatively undisturbed natural environment are the key recreational features that attract park users. The rugged terrain provides both a challenge to the ardent trail user and a constraint to the less-energetic or disabled recreationist.

Trail-oriented recreational activities (including hiking, horseback riding, and mountain biking) are the dominant uses of the wilderness. Except at the entrance road and parking area, motorized uses are not allowed in the park. The park offers approximately 40 miles of trail. Park trails range from old two-track ranch roads (approximately 17 miles) to primitive, user developed, single-track routes (approximately 22 miles). Except for one paved trail to the communications tower, all of the park trails are dirt. Two-track trails are regularly maintained, but these and one-track trails suffer from erosion and heavy cattle and horse traffic.

All 40 miles of trail are available for hiking, and roughly 5 miles are designated for hiking only. Equestrian use is allowed on approximately 34 miles of trail, equally split between two-track and single-track. Bicycle use is allowed on approximately 6 miles of two-track trail; it is not allowed on single-track trails. In general, opportunities for bicycle use are limited by the relatively few miles of viable trail options and the lack of a legal loop trail network.

The park also offers limited opportunities for picnicking and group camping activities. Two small picnic areas with 10 picnic tables are located near the Bollinger Canyon staging area. Two semi-developed group camping areas located in the park are available for youth group and equestrian use on a reservation basis.

Present use of the regional wilderness is relatively low: the District estimates that approximately 120,000 people visited the park in 1986. This low use is likely due to a combination of the park's rugged terrain, limited facilities, and limited public access. Most use of the park occurs in the late spring and early fall. Hot, dry weather conditions limit use during the summer months.

Little Hills Regional Recreation Area

Group activities and a high degree of social interaction are the dominant recreational characteristics of the Little Hills Regional Recreation Area, which consists of the Little Hills

reservation picnic park and Las Trampas Stables. Both sites are heavily developed recreation facilities designed to accommodate relatively large numbers of people. Both sites are operated by concessionaires under contract with the District.

The Little Hills picnic park provides opportunities for large group picnics, such as company picnics. The site is available by reservation for private parties only. Opportunities range from swimming and lounging by the pool to organized games of horseshoes and volleyball. Facilities include a snack bar, barbecue pits, a swimming pool, a volleyball court, a playing field, a dance hall, picnic tables, and a fishing pond.

The Little Hills picnic park is one of the few facilities in the regional area that offer private reservation group opportunities for parties as large as 1,400 people. The picnic area is heavily used by both weekend and midweek groups. It is open from 1 May to 31 October and is generally booked heavily (109 days) for the entire season. Total use in 1991 was approximately 36,300 people in 253 groups.

Las Trampas Stables (technically a part of the Little Hills Regional Recreation Area) caters to equestrians and is run by another concessionaire. The stables board private horses and maintains a rental string which is available to members of the public for guided trail rides. The stables also maintain a volunteer program that provides opportunities for young people to learn about and take responsibility for horses and operation of a stable.

The stable's proximity to Las Trampas Regional Wilderness allows the concessionaire to offer the public a range of trail rides of varying length and difficulty. This proximity also allows stable boarders easy access to trail opportunities without having to trailer their horses. The stable is by far the greatest contributor to equestrian use in the park.

Public use of the stable is relatively high. According to the concessionaire's records, 4,200 visitors enjoyed trail rides in 1991. The approximately 70 boarders, guides, and volunteers rode the trails several times per week on average.

Las Trampas to Mt. Diablo Regional Trail

The Las Trampas to Mt. Diablo Regional Trail is one of 60 regional trails identified in the 1989 Master Plan, which envisions a series of regional trails providing links between parks, local trails, and urban communities. As the name implies, the trail is intended to provide a connection between Mt. Diablo State Park and Las Trampas Regional Wilderness. Two-thirds of this trail has been completed, offering opportunities for the public to walk or ride a horse from the town of Danville to Mt. Diablo and vice versa. However, the trail has not been extended through Danville or Alamo from Hap Magee Park to Las Trampas Regional Wilderness. Use of the existing trail is low.

Impacts and Mitigation

The California Environmental Quality Act Appendix G establishes that a project would have a significant effect on the environment if it were to (1) displace a large number of people or (2) conflict with established recreational uses of the area. Actions that serve to limit public access or unnecessarily restrict existing recreational opportunities would be deemed to be significant and adverse. The creation of unsafe conditions that would deter certain recreational uses or users would also be considered significant.

The LUDP includes several actions and policy decisions that would increase public access and expand recreational facilities (see Section III of the LUDP). These actions would have a beneficial impact on recreation. The LUDP also includes the closing of some existing trails and the elimination of bicycle use on park trails. These actions would have a negative impact on some users, and preclude certain types of activities (particularly mountain biking), but would have a beneficial impact on the park's wilderness characteristics and would reduce potential user conflicts. These actions would not displace a large number of people or unnecessarily restrict recreational opportunities and therefore would not have a significant adverse impact on the environment. The potential impacts to recreation are described below by park unit.

Las Trampas Regional Wilderness

Impact: The LUDP includes proposals to develop new staging areas and park access trails along the eastern and southern perimeters of the park. These developments would serve to improve public access to the park, including its detached southern parcels, and provide new opportunities for hikers and equestrians desiring to use the park. Staging areas on the eastern boundary of the park would create new and improved opportunities for local residents and would provide public access closer to the population centers that the park services.

Mitigation: None required.

Impact: The LUDP includes expansion of recreational facilities in the Bollinger Canyon area, including parking facilities, picnic areas, and a new nature center. The present parking capacity (including overflow along Bollinger Canyon Road) would be increased by up to 100, increasing from approximately 450–550 vehicles to approximately 550–650 vehicles. The picnic areas are to be expanded from 10 sites to approximately 60 sites. A new interpretive nature center would be constructed southwest of the existing parking area. Each of these developments would benefit recreation by accommodating existing demand and providing new recreational opportunities. Increased parking capacity is proposed to accommodate existing and future demand and would ultimately allow more users to enjoy the park, particularly during peak use times. Similarly, new picnic areas

would serve to accommodate increased demand for public picnic areas in the region and would offer greater opportunities for park visitors. The new nature center would provide interpretation and environmental education opportunities not currently available in the park.

Mitigation: None required.

Impact: Proposed recreational facility developments contained in the LUDP may result in increased use levels, beyond normal increases in regional demand, through the creation of opportunities not previously available at the park and through a general increase in public awareness of the park. Increased recreational development and increased visitor use of the park could ultimately impact its wilderness characteristics.

At this point, use of Las Trampas is relatively low, particularly given the size of the park, in comparison to parks like Sunol (160,000 visitors) and Briones (400,000). Given this fact, and the relatively minimal developments proposed, it is unlikely that increased use would have a negative impact on the park's existing character. All proposed developments are sited along the edges of the park, and most of the facilities (the new picnic areas, parking, and nature center) are concentrated in an existing staging area that does not exhibit wilderness characteristics. The proposed developments are therefore not expected to have an adverse impact on the park's character.

Mitigation:

- The LUDP indicates that recreational developments would be designed and sited to be unobtrusive and to blend in with the park's rustic character and to minimize intrusions upon the viewshed.

Impact: The LUDP includes policies to close approximately three miles of existing single-track trails in the park to protect sensitive natural resources and reduce erosion. These closures could slightly reduce hiking and equestrian opportunities and would reduce public access into some areas of the park. However, these reductions account for a relatively small percentage of the park's total trail system and do not represent a significant loss. Many of the trails currently receive very little use and in some cases are hard to find. In addition, about two miles of new trail within the park, improved access to EBMUD trails, and proposed trails to park boundary lines would provide new trail opportunities and would offset proposed reductions.

Mitigation: None required.

Impact: Several new trails and trail reroutings are included in the LUDP to improve circulation patterns in the park. These trails would create new loops, providing both short

and long hikes and rides. These developments would increase the variety of options found in the park for visitors and enhance existing recreational opportunities for hikers and equestrians.

Mitigation: None required.

Impact: The LUDP includes policies to close Las Trampas Regional Wilderness to bicycle use. There are no existing two-track loop trails within the park and little potential exists for creating them through future acquisition, because of the steep topography. In addition, the 1989 Master Plan prohibits the use of "mechanized" equipment in a regional wilderness. This policy would eliminate existing mountain biking opportunities in the park (the park is currently open to limited bicycle use) and would have an adverse impact on an existing recreational use. Mountain bikers currently using the park would be displaced by this action, and all future opportunities for such use would be precluded.

Because the quantity and quality of the park's existing mountain biking opportunities are severely limited, the overall impact of this action on recreation would not be significant. The action would not displace a large number of people or unnecessarily restrict recreation opportunities. Mountain bicycle access and better opportunities are provided elsewhere in the regional area, including several EBRPD parks.

Mitigation: While no additional measures are required, the District may consider implementing the following measures not included in the LUDP:

- Provide public information at the park regarding alternative mountain biking opportunities in the area.
- Provide bicycle racks at the Bollinger Canyon and East Side/South Danville/Cull Canyon staging areas.

Impact: Las Trampas Regional Wilderness is a central component of the potential regional trail network proposed by the 1989 Master Plan. Four regional trails are proposed to converge on the park: the Las Trampas to Mt. Diablo Regional Trail, the Bollinger Canyon to Las Trampas Regional Trail, the Las Trampas to Pleasanton Ridge Regional Trail, and the Redwood to Las Trampas Regional Trail. These regional trails are intended to provide multi-purpose trail corridors connecting the region's parklands. Although not all trails are to be multi-purpose (i.e., including bicycles), a ban on bicycle use in Las Trampas would ultimately prevent bicyclists from traveling through the park on designated regional trails that are open for bikes enroute to other parklands. The Las Trampas to Mt. Diablo Regional Trail is not open to bicyclists. Bicyclists would be required to go around the park in order to continue use of the regional trail network.

Mitigation: None required.

Little Hills Regional Recreation Area (including Las Trampas Stables)

Impact: Capital improvements associated with the upkeep and maintenance of the Little Hills facility would facilitate its continued operation and viability and would thus ensure its continued use and enjoyment by the public.

Mitigation: None required or recommended.

Impact: The number of rental horses kept at Las Trampas Stables has a direct bearing on the number of customers that the concessionaire can serve in a given day. If the number of available horses is reduced, the number of people served is reduced. Any action to reduce the number of rental string horses below existing levels would cause a reduction in existing service. However, this reduction in service does not necessarily equal a loss of recreational opportunity. The opportunity to go on scheduled trail rides would still exist, although users might have to plan more in advance to take advantage of the opportunity.

A reduction in the number of private (non-rental) horses would also affect use of the park by their owners. These users would have to board their horses elsewhere and bring them by trailer to Las Trampas, which is likely to reduce equestrian use at Las Trampas.

Mitigation: None feasible.

Las Trampas to Mt. Diablo Regional Trail

Impact: The regional trail link and associated staging facilities proposed in the LUDP would complete the connection between Mt. Diablo State Park and Las Trampas Regional Wilderness envisioned in the 1989 Master Plan and would provide increased opportunities for equestrians and hikers. The concept of a regional trail network is predicated on designation and completion of trail routes. This action represents a continuation of the regional trail concept and its benefits to recreation.

Mitigation: None required.

Impact: The LUDP includes development of two staging areas associated with the Regional Park Trail along the eastern border of the park, one in south Danville, and one at the end of Cull Canyon Road on the southern boundary of Las Trampas. These staging areas would improve public access and recreational opportunities at Las Trampas and along the Regional Trail.

Mitigation: None required.

9. ACCESS, CIRCULATION, AND TRAFFIC

Setting

Site Description

The Las Trampas Regional Wilderness project site is located on unincorporated land west of Danville and Alamo, east of Moraga, and along the Alameda County line. Bollinger Canyon Road is the primary vehicular access route, leading into the southern park entrance where the road dead-ends. This entrance is approximately five miles north of Crow Canyon Road and about 5.5 miles from the nearest freeway interchange at I-680 and Crow Canyon Road. This segment of Bollinger Canyon Road is relatively sparsely developed, with single family residences, ranches, and a few places of employment. Development along the roadway becomes increasingly sparse as one proceeds north toward the park.

The Las Trampas parking lot for park users is adjacent to the main entrance. It has an oil and gravel surface and is not marked for parking stalls. Field investigations indicated that its practical parking capacity is approximately 40 spaces, although it can accommodate slightly more. If the lot is at capacity, users may park alongside Bollinger Canyon Road, which accommodates an additional 40–50 cars, according to EBRPD. Although the main parking lot is not specifically designed to accommodate horse trailer rigs, it can accommodate up to four short trailer rigs along the perimeter of the lot. There is a small picnic area with 10 tables between the parking lot and Bollinger Creek, which runs along the west side of Bollinger Canyon Road. The lot provides direct access to the paved Rocky Ridge Trail and to several other dirt hiking trails.

There are two additional park-related facilities located one-half mile south of the main parking lot. Las Trampas Stables offers boarding facilities for privately owned horses and guided horseback tours through the park for the general public. Virtually all stable users use the park trails. Those who board horses there or take guided tours generally park their cars at or near the stable's parking area, which accommodate up to 30 vehicles. The stables are located within the Little Hills Recreational Area, which also contains picnic and recreational facilities for large groups at the Little Hills picnic park. A maximum of 325 cars can be accommodated at the picnic park's gravel lot and in adjacent areas along Bollinger Canyon Road.

There is no vehicular access to Las Trampas along its northern and western sides. The northern section of Bollinger Canyon Road from Moraga to the park boundary is private and not open to the public. There is limited trail access to the east, where the park abuts

primarily residential areas of Danville and Alamo. Pedestrian access to the park's hiking trails is off South Avenue in Alamo and Starview Drive in Danville, but there are no formal parking or staging areas for hikers or equestrians at those locations.

Hap Magee Ranch Park is located east of Las Trampas, between Danville Boulevard and I-680. The Las Trampas to Mt. Diablo Regional Trail, which currently ends at an underpass beneath I-680, will pass through this park as it extends west toward Las Trampas. There is designated parking for use of the regional trail for 12 autos and five horse trailer rigs. Camille Avenue provides the most direct roadway connection from the Hap Magee Park vicinity to Las Trampas, although it does not provide direct vehicular access into Hap Magee Park. At present the only vehicular access is via La Gonda Way.

Peak use of Las Trampas occurs on Saturdays, when adjacent roadway traffic volumes are significantly lower than on weekdays.

Local and Regional Access

Bollinger Canyon Road is a two-lane collector street that extends for approximately five miles from Crow Canyon Road to the Las Trampas main parking lot, where the road dead-ends. It is 27 feet wide within a 75-foot right of way. The "maximum" possible design improvement would increase the existing 2-foot shoulders to a width of eight feet (EBRPD, 1991).

Bollinger Canyon leads to Crow Canyon Road, a 4-lane east-west arterial roadway which provides direct access to I-680 about one-half mile east of Bollinger Canyon Road. Crow Canyon Road also extends for approximately eight miles to the west-southwest toward Castro Valley and I-580.

Cull Canyon Road is a 4.3-mile 2-lane roadway that links the southwest corner of Las Trampas Park with Crow Canyon Road in Castro Valley. From Crow Canyon Road it heads north functioning as an arterial roadway for less than one mile before it narrows to a collector street for its remaining distance. It eventually dead-ends into a dirt road which provides access to four to five ranches near the park.

I-680 is a 6-lane freeway that runs north-south, bisecting Danville and Alamo to the east. To the south, the freeway provides access to I-580, Dublin, Pleasanton, Fremont, and San Jose; to the north, to Route 24, Walnut Creek, Concord, Benicia, Fairfield, and Sacramento.

Danville Boulevard is a two-lane arterial roadway with shoulders and left turn lanes at key intersections. It runs parallel to I-680 west of the freeway and east of Las Trampas. The

roadway carries substantial local commercial and residential traffic during the week, although weekend traffic is relatively light. The posted speed limit is 35 mph along the segment between Danville and Alamo, although speed checks by Fehr & Peers Associates (May 1992) indicate that a more typical speed is 45 mph. It provides access to a number of collector and residential streets that run east-west and provide direct access to some of the park trails along its eastern boundary, including the Del Amigo and South Avenue trails.

These local streets include Hemme Avenue and Camille Avenue, which are 2-lane local residential streets that run westward from Danville Boulevard. Although land use is primarily single-family residential, there is a school (Rancho Romero School) and an institutional retreat located along Hemme Avenue. The property located at the end of Camille is developed with a construction company's office building and parking.

Public Transportation

"County Connection" buses operated by the Contra Costa County Transit Authority provide fixed-route bus transit service in the Danville-Alamo area. There is no regularly scheduled service available to the main Las Trampas entrance along Bollinger Canyon Road. The closest regularly scheduled service operates as Route #121 along Danville Boulevard in Alamo. This route provides service to the Walnut Creek BART station to the north and to the Stoneridge Mall in Pleasanton to the south. Service is provided every half hour on weekdays. On weekends, the service operates as Route "D" and runs at 40–60 minute scheduled headways.

Pedestrian and Bicycle Access

The Park is a popular location for local mountain bicyclists. It can be accessed directly on bicycle via Bollinger Canyon Road, although not conveniently. Danville Boulevard in Alamo has Class 2 bicycle lanes in each direction in the vicinity of Camille Avenue and Hemme Avenue, but there is no legal bicycle access into the park from the east side.

Pedestrians may access existing park trails directly from Bollinger Canyon Road or off of South Avenue in Alamo or Starview Drive in Danville, or from the Upper San Leandro (EBMUD) Watershed to the west.

Parking and Access Conditions at the Las Trampas Parking Lot and Park Entrance

A study team conducted comprehensive live surveys of all persons and groups entering the main park entrance and parking lot off Bollinger Canyon Road on Saturday and Sunday, 25 and 26 April 1992, from 11:00 a.m. to 3:00 p.m. The actual survey form and

a full breakdown of the results are provided in Appendix D. This section provides a brief overview of findings that apply to the key traffic and parking issues.

Demand: Maximum parking demand at any one time over the 4-hour survey period was 26 vehicles in the main Las Trampas parking lot. This is 65% of the lot's practical capacity of 40 spaces. However, anecdotal evidence from the park staff indicates that people sometimes park their cars along Bollinger Canyon Road staff to be able to remain within the park past the official closing time (usually at dusk), or when the gate to the lot is locked. In addition, peak parking conditions occasionally exceed the lot's capacity, which may also result in several visitors parking their cars along the shoulders of Bollinger Canyon Road.

Duration: The average intended (vs. actual) duration of each park visit was approximately two hours. The range was from less than one hour to four or more hours.

Origins: Approximately 44% of all users were from Danville and San Ramon. The key reason given for patronage was proximity and ease of park access. An additional 22% came from the Dublin and Pleasanton area (15% from Dublin, 7% from Pleasanton). A key reason for this patronage appears to be the lack of suitable similar alternatives closer to their residences. Of the balance, just 10% came from all communities north of Danville, including Alamo, Walnut Creek, and Moraga. This comparatively small number indicates their proximity to Briones Regional Park and the circuitous roadway access via Crow Canyon and Bollinger Canyon roads which makes Las Trampas a less attractive destination. Most of the balance (20%) come from Oakland, Berkeley, Hayward, and Castro Valley.

Mode: Approximately 74% of user groups arrived at the parking lot gate in automobiles. An additional 22% arrived on horseback, nearly all of whom originated at the Las Trampas Stables, which is accessed via automobile. The remaining 4% arrived at the park entrance by other means (bicycle, walking). Only one car entered the lot with a horse trailer during the two survey days.

Vehicles: All but one of the vehicles entering the main Las Trampas parking lot during survey hours were private autos or small trucks.

Preferred Park Access: Approximately 30% of those surveyed would prefer to use a staging area located on the east side of the park adjacent to the developed areas of Alamo or Danville.

Traffic Conditions Along Hemme Avenue, Camille Avenue, and Danville Boulevard

Average daily traffic (ADT) counts were taken along Hemme Avenue and Camille Avenue to determine the prevailing level of daily traffic volume on typical weekday and weekend days. Counters were placed near the intersection of each street with Danville Boulevard to determine the maximum street volumes (i.e., volumes would decrease with increasing distance from the intersection). The results indicated that daily volume on a typical weekend day is almost the same on the two streets: approximately 1,720 along Hemme Avenue and 1,650 along Camille Avenue. These volumes are well within acceptable parameters for volumes along local/residential streets (Appleyard, 1980; Fehr & Peers, 1989). At this level of traffic volume along this type of roadway in a residential area, local residents commonly perceive conditions to be relatively safe. ADT count data for each street are provided in Appendix E.

The Contra Costa County Public Works Department recently conducted a weekday count of traffic along Danville Boulevard at Hemme Avenue (January 1992). Midweek ADT was 11,800, with peak hour volumes approximately 11% of ADT. Weekend day volume counts were unavailable, but a speed survey made on a Sunday afternoon showed that speeds typically range from 40 to 45 mph, which represents free-flowing conditions (LOSA) for that time period. Experience and anecdotal evidence suggest that weekend day volume is significantly lower than weekday volume, because of the absence of both school-related traffic and commute traffic. On weekdays this segment of Danville Boulevard is often used by commuters avoiding peak-period congestion on I-680 (Vukad, 1992).

An analysis of recent accident data for Danville Boulevard indicates that Camille Avenue has a lower accident rate than does Hemme Avenue at Danville Boulevard. For the period January 1989 to July 1992, there were 8 traffic accidents on Danville Boulevard at Hemme and only 2 accidents at Camille. There was one injury accident at each location. The fewer accidents at Camille are attributable to the lack of a traffic signal. Most of the accidents at Hemme involved rear-end collisions.

Traffic Conditions Along Bollinger Canyon Road

Weekend ADT along Bollinger Canyon Road was estimated by totaling employee and customer trips made to or from three activity centers within the Las Trampas Park area: Las Trampas Wilderness, Las Trampas Stables, and the Little Hills picnic park. On the assumption of 10 trips per day from each of 20 local private residences, the combined levels of documented activity from this area indicate that weekend ADT is currently about 1,000 trips:

Las Trampas Park (main gate)	152
Little Hills picnic park	470
Las Trampas Stables	163

Background	200
Total	985

Accident data from the California Highway Patrol over an 18-month period (January 1991 to July 1992) indicates 2 accidents occurred on Cull Canyon Road north of Crow Canyon Road and 7 accidents occurred on Bollinger Canyon Road north of Crow Canyon Road.

Impacts and Mitigation

The CEQA Guidelines Appendix G state that a significant environmental effect normally occurs if the project would cause a traffic increase that is substantial in relation to existing street traffic load and capacity. Of concern in this EIR is the project's effect on the following:

1. present circulation patterns in populated areas adjacent to Las Trampas and Little Hills
2. the generation of additional traffic from increased use of existing park facilities or new park facilities
3. traffic hazards to pedestrians, bicyclists, and equestrians.

Although objective criteria are used in defining acceptable traffic volumes, required capacities, and level of service (LOS) for various types of roadway facilities, this analysis includes a "perceptual" component. It incorporates the results of a visitor survey, recent traffic counts and accident data, and discussions with County officials regarding safety considerations at key project locations.

The LUDP contains the following elements that would potentially affect traffic conditions and site access:

1. Designation of a trail link between the existing section of the Las Trampas to Mt. Diablo Regional Trail and the east side of Las Trampas. This new trail would cross Danville Boulevard at Camille Avenue (or alternatively Hemme Avenue) and use right-of-way along either road to complete the planned trail.
2. Development of 1–3 parking and staging areas located on the east side of Las Trampas (Corduoy Hills area) in Alamo. One potential staging area (for weekend use) is the Rancho Romero School on Hemme Avenue. A parking area at that site would accommodate 10–20 vehicles.

Two of three sites would be new facilities. Preliminary investigations indicated that the most suitable candidate locations for further facilities would be on Camille Avenue or Hemme Avenue west of Danville Boulevard in Alamo. Depending on their size, location, and potential design, the two new facilities would accommodate 10–40 vehicles. Spaces for 5–10 equestrian rigs would be provided at the Camille site only.

3. Development of additional parking at new staging areas on the southwest side off of Cull Canyon Road and in south Danville off of San Ramon Valley Boulevard. The southwest staging area (Cull Canyon) would eventually accommodate up to 30 cars and 10 car/horse-trailer rigs. The South Danville staging area would accommodate 20–50 cars and 10 rigs. The South Danville staging area is west of San Ramon Valley Boulevard and south of Wembly Drive.
4. A new nature interpretation center, located adjacent to the main Las Trampas parking lot (see Figure III-9). Park officials have indicated that staff requirements would be relatively light for this facility. EBRPD staff anticipate that the facility would generate very few new trips. Most would be attributable to school groups and families, and their numbers would not be significant, particularly on weekends, when peak use for the park occurs. The role of the center would be to provide an introduction and overview to park visitors who are there for other recreational purposes. Parking for up to five staff vehicles would be located in the main staging area.
5. Development of additional parking at the main entrance to Las Trampas. Parking for an additional 60-100 cars would be provided at off-street sites located south of the existing lot adjacent to Bollinger Canyon Road. Equestrian rigs would be accommodated near Elderberry Trail (7–10 rigs) and would continue to be accommodated at Corrales Camp (25–30 rigs), adjacent to Bollinger Canyon Road and south of the existing lot.

Existing Plus Project Conditions

Trip and Parking Generation

Impact: The development described in the LUDP is not expected to generate a significant increase in the number of park-related trips. Rather, the LUDP would result in a reapportionment of existing and projected visitation and hence, parking demand. The steep topography makes Las Trampas attractive to hikers and bicyclists who can tolerate moderately strenuous recreational activity. In general, the park facility does not attract visitors seeking a leisurely walk, although the nature center might attract a few new

visitors. For these reasons projected future use is expected to be proportional to forecast population growth within the park's service area. The Little Hills area facilities within Las Trampas are more significant trip generators than the wilderness hiking areas, but there are no changes or expansions proposed for those facilities, and little growth in demand is anticipated.

The analysis of trip generation does not involve a simple set of calculations. The project does not include a significant new trip generating facility, but a reapportionment of existing activity. The LUDP will reapportion some of the trips now made along the Bollinger Canyon Road access route to the proposed new parking/staging area(s). The following analysis derives the project's effect on trip rates for the existing main parking/staging area, and the proposed satellite parking staging area. It assumes that at least one staging area will be developed along the Camille Avenue corridor or the Hemme Avenue corridor leading to the park's east side, and that parking/staging facilities will also be developed in South Danville and at the end of Cull Canyon Road.

The visitor survey results showed that up to 30% of those parking at the main lot would prefer to use a staging area located to the east in Alamo. With this diversion rate, 8 of the 26 cars reported as the maximum parking lot utilization on the survey days would use an east-side facility. If the main staging area were to be filled to its current capacity (40 vehicles), 12 of these cars would divert to an east-side facility.

The total number of groups interviewed on the busiest survey day (Saturday) was 55 (of which 74% arrived by auto), over a 4-hour period (11:00 a.m. to 3:00 p.m.). This period represents the peak hours of park arrivals. On the assumption that this number represents approximately two-thirds of daily arrivals, a total of 83 daily groups ($55 \div 0.67$) currently arrive at the main parking lot. This utilization rate would result in maximum parking occupancy of 65%, which is what the survey found. If one assumes 100% capacity utilization (of the existing main lot), this would translate into 127 total daily group/vehicle arrivals.

Diversion of 30% of these, or 38 cars, to the new east side facility in Alamo/Danville over the course of a day would generate an additional 76 (2-way) ADT onto Camille Avenue, or alternatively Hemme Avenue. There would be a corresponding reduction in weekend ADT along Bollinger Canyon Road and the Crow Canyon Road segment between I-680 and Bollinger Canyon Road.

For the proposed parking/staging areas at the end of Cull Canyon Road and in South Danville, diversion rates of 10% to 20% from the Bollinger Canyon Road entrance are expected. This would result in a maximum diversion of 25 cars per day (50 two-way trips) to each facility with a corresponding reduction on Bollinger Canyon Road.

Mitigation: The proposed east-side parking/staging area should have a minimum capacity of 15 parking spaces for autos to accommodate the projected demand. There should also be capacity for two "short" truck-horse trailer rigs. These minimum requirements would be accommodated by the facilities included in the LUDP.

Trip Distribution and Assignment

From the survey, most of those who expressed an interest in entering Las Trampas through an east-side facility resided in Danville or communities to the north. Thus, we assume that these additional trips would exit from I-680 and travel south along Danville Boulevard to Camille Avenue, rather than continuing to the I-680 - Crow Canyon Road interchange.

Equestrian Safety

Impact: The Las Trampas to Mt. Diablo Regional Trail extension would result in the need for people riding horseback to cross Danville Boulevard at either Hemme Avenue or Camille Avenue. This raises a safety-related concern: while weekend day volume on Danville Boulevard is significantly below weekday volume, and the frequency of equestrian crossings is expected to be relatively low (five per weekend day according to the LUDP), some form of crossing protection is still necessary. In addition, some weekday equestrian crossings would occur, and Danville Boulevard functions as a principal arterial route every day. Hemme Avenue would appear to be a safer location than Camille Avenue for equestrian crossings, because of the existing traffic signal at its intersection with Danville Boulevard. However, this must be weighed against the relative safety of walking horses along Danville Boulevard between Hemme and Camille. Other than this issue, the project does not result in any significant traffic-related impact along any study area roadway or intersection, but may have impacts on parking requirements.

Mitigation: A designated equestrian crossing of Danville Boulevard for the Mt. Diablo Trail from/to Hap Magee Park located at Camille. Hemme Avenue already has a pedestrian-actuated signal, but reaching it will require walking horses for several hundred yards in a Class 2 bike lane next to high speed traffic. At the Hemme/Danville intersection, the bike lane narrows on its approach to the signal, which would bring the high-speed traffic in closer proximity to the animals as they wait to cross. For this reason, Camille Avenue is a more desirable crossing point. Although it has no signal, sight distance is very good for oncoming traffic. To locate the crossing there the EBRPD would:

- install a striped crosswalk (this is already a legal crosswalk)
- install pole-mounted warning signs for an equestrian crossing for both northbound and southbound traffic on Danville Boulevard.

These measures are consistent with those in the CEQA Initial Study for the Hap Magee Park (Danville 1989) and will be implemented as part of that project.

These measures are not required if the designated equestrian crossing is located at Hemme Avenue. In this scenario, pole-mounted warning signs for equestrians should be installed on both sides of Danville Boulevard on the approach to that intersection. Once equestrians have crossed to the west side of Danville Boulevard, they would proceed to the Iron Horse Trail to reach Hemme Avenue (if necessary to remain on the designated trail).

Impact: The addition of trail #9, from the optional Holly Court paddock to Las Trampas Stables, would result in equestrians using as much as 1,000 feet of the public right-of-way along Bollinger Canyon Road. This is a potentially significant impact for the safety of horses and riders. Mitigation identified in this EIR would reduce the impact to a less than significant level.

Mitigation: If the Holly Court paddock alternative is implemented, the District would need to install caution signs and a crosswalk across Bollinger Canyon Road.

Future Conditions

Since Project trip generation is negligible and the peak use periods of the project occur on weekends, this study does not evaluate future traffic conditions of roadway intersections located within the study area. This section addresses potential future conditions along Bollinger Canyon Road, Hemme Avenue, and Camille Avenue, and potential parking conditions at the existing lot and for proposed satellite lots. Conditions are evaluated for the year 2005.

Other than a small number of trips produced by the proposed nature center, parking requirements at the existing main lot would increase proportionately to population growth projected for the park's service area. Based on the user survey and population growth projections for the local areas where users reside, the weighted average growth is projected to be 26% from 1990 to the year 2005, or 1.5% per year (ABAG, 1989). This would translate into 23% growth in population and hence, park patronage from 1992 to 2005.

Future (No Project) Conditions

With no provision of satellite parking/staging areas east of Las Trampas, parking demand at the main parking lot would increase by 23% over existing (1992) levels by the year 2005. If this growth factor is added to surveyed parking demand, parking requirements would be calculated as follows:

26 vehicles x 1.23 = 32 spaces required (based on survey-observed demand)

If this growth factor is applied to a parking capacity utilization rate previously observed by park staff, future (2005) needs would be calculated as follows:

40 vehicles x 1.23 = 49 required spaces

With growth applied to survey-observed parking demand, year 2005 parking demand at the main lot would be 75% of the existing capacity. With growth applied to staff-observed parking demand, parking demand would exceed the current main lot capacity by 9-10 spaces. Note that these demand estimates are based solely on population growth. Expansion of parking alone is not assumed to induce patronage and parking demand.

Future Plus Project Conditions

Roadway Conditions:

For future (year 2005) conditions, ADT volume from all park facilities would increase by 23% to reflect regional population growth. However, trips to Las Trampas park via Bollinger Canyon Road would be reduced by 30% to reflect trips diverted to the new east-side staging areas and up to 50% to reflect diversions to the Cull Canyon and South Danville staging areas. The net effect would be to change future ADT to approximately 1,120 trips with a 30% diversion, and 1,150 trips with a 50% diversion. (Without the 30% diversion, ADT would be approximately 1,210 trips.) This represents a conservative estimate of daily volumes for the northernmost segment of Bollinger Canyon Road located within and near the Las Trampas Regional Wilderness area.

Allowing for a margin of error, 1,100-1,200 trips is a very low daily traffic volume for this type of roadway, even with temporarily constrained roadway dimensions (i.e., parallel parking on both sides of the roadway from the main parking lot to the stables), and it would result in LOS C (LOS A or B conditions are not practically possible, despite the low volumes, because of design-related restrictions on speed that are common on this type of roadway¹).

Impact: The effect of establishing one or more east-side parking/staging areas off Hemme Avenue or Camille Avenue (assuming a 30% diversion rate) would result in a negligible impact to daily traffic volume along either street. This would also be the case for Cull Canyon Road and for San Ramon Valley Boulevard near the proposed south

¹ According to the Florida DOT (FDOT) method of evaluating roadway traffic conditions, the threshold 2-way ADT volume on this type of roadway (rural collector) for LOS C is 6,100 vehicles (FDOT, 1990).

Danville staging area. The Project would add approximately 80 (2-way) trips or approximately 4% to existing ADT along either Camille or Hemme. To reflect previously observed main lot capacity conditions, increase this volume by 50% or 40 trips to 120 ADT. Similarly, traffic along the Cull Canyon Road and San Ramon Valley Road approaches to the southern staging areas would increase by about 80 ADT. This would represent a negligible increase in weekend ADT along either street. There would be a corresponding reduction in weekend ADT along Bollinger Canyon Road and the Crow Canyon Road segment between I-680 and Bollinger Canyon Road.

Mitigation: None required.

Impact: The effect of establishing two or three staging areas along Hemme and Camille Avenues would be to disperse traffic volume between the two streets. If three lots are developed, two would be along Hemme (20-60 spaces) and one along Camille (10-40 spaces). Thus, ADT along Hemme Avenue would increase by 80 trips and along Camille Avenue by 40 trips.

Mitigation: None required.

Parking Conditions:

Impact: The LUDP would reduce parking demand within the main parking lot by approximately 30% to 50% below what it would otherwise be. With this reduction, peak weekend parking demand would be a maximum of 22–23 spaces, based on survey-based demand. Assuming previously-observed capacity conditions, maximum parking demand would be approximately 34 spaces, which approaches that lot's practical existing capacity. Peak parking demand at one or more east side parking/staging area(s) would total to 10 spaces assuming survey-based demand, or 15 spaces assuming previously-observed (100% capacity) demand.

Mitigation:

Mitigation for conditions in the year 2005 include the following measures:

- Provide parking capacity for 18-19 autos plus 3-4 spaces for "short" truck-horse trailer combinations. (Note: this is based on the assumption that population growth will determine future demand. Increased parking capacity alone will not induce parking demand.)
- If the equestrian crossing is located at Camille Avenue, periodically (annually) monitor weekend traffic volumes along Danville Boulevard at

that location, to determine whether more extensive mitigation is necessary for the proposed equestrian crossing.

10. PUBLIC SERVICES AND UTILITIES

Setting

Public services and utilities in the three park units (Regional Wilderness, Regional Recreation Area, and Regional Trail) are provided by the District and a variety of state and local municipalities. Utilities, including water, power, and sanitation, are located primarily in the Bollinger Canyon area and along the eastern boundary of the park.

Police and Fire Protection

Several public agencies operate under mutual aid agreements to provide security and fire protection for the parklands. The primary police response agency is the East Bay Regional Park District Public Safety Department, which provides 24-hour vehicle patrolling augmented with helicopter patrol and emergency response. Additional police protection is provided by the Contra Costa County Sheriff's Department, the San Ramon and Danville Police Departments, and the California Highway Patrol, which maintains responsibility for road incidents.

Responsibility for fire fighting in Las Trampas and Little Hills is divided into "Local Responsibility Areas" (LRA) and "State Responsibility Areas" (SRA). The California Department of Forestry (CDF) has the primary jurisdiction, but EBRPD and local fire departments within the San Ramon Valley Fire Protection District (SRVFPD) have concurrent jurisdiction in the park as well. These agencies operate under a county-wide mutual-response agreement. In the event of a reported fire, all appropriate responsible agencies are notified, and the closest fire fighting units are dispatched. EBRPD responds from different stations according to a weather rating system. Emergency Medical Services (EMS) for the park are typically handled by the SRVFPD.

Electricity, Water, and Sewers

There is electrical service in the park at the Little Hills Recreation Area and at a municipal water supply tank located in the Remington Loop parcel of the park. Both these facilities are served by overhead lines. The line along Bollinger Canyon Road which provides power to Little Hills and CDF continues through the park (along the Valley Trail) to a private residence located north of the park.

Telephone service at Little Hills is provided via utility poles along Bollinger Canyon Road. In addition, an underground telephone line crosses the park to serve the communications

facility on Rocky Ridge in the Upper San Leandro Reservoir Watershed of the East Bay Municipal Utility District.

Both municipal water (EBMUD's Danville system) and local spring water are supplied in the parklands for public consumption. The water is also used to supply water troughs for horses. The municipal system supplies water to the Holly Court area, the Bollinger Canyon staging area and the nearby Corrales Camp. Municipal water would also ultimately serve Hap Magee Park and the Las Trampas to Mt. Diablo Regional Trail. Spring water from the park is used at Little Hills Recreation Area, and also at the Eugene O'Neil National Historic Site operated by the National Park Service. Three water tanks used for the historic site are located on District lands.

Sanitation facilities in the park consist of chemical toilets located at the Las Trampas Stables, Bollinger Canyon staging area, and the group camps and flush toilets tied to a septic tank leach field system at Little Hills Picnic Park. The security residence at Little Hills has a septic tank connected to the leach field at the picnic area. The Central Sanitary District sewer line ends at Crow Canyon Road, but a subsurface percolation leachline (for septic tank effluent) that runs along Bollinger Canyon Road serves the CDF station and Holly Court.

Impacts and Mitigation

Under the CEQA Guidelines, a significant impact results from a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the project. Social or economic changes related to a physical change may be considered in evaluating the physical change for its significance.

For purposes of this EIR, impacts on the provision of public services and utilities are considered significant if they would result in (1) the need for additional services or facilities beyond what is planned by the District or (2) would strain existing capacities. The District would prepare a Capital Improvement Plan (CIP) for modifications to Little Hills, but increases in capacity are not planned. There are no service extensions planned by the District to serve development outside the park facilities.

Police Services

Impact: The LUDP includes new trailhead staging areas along the eastern and southern borders of the regional wilderness, creation of a regional trail through Danville, and expanded facilities at Bollinger Canyon. The EBRPD Public Safety Department assumes primary responsibility over any facility that is built and shares concurrent jurisdiction with several agencies. Depending on the location of the staging areas and trail alignments they could fall into the unincorporated community of Alamo or the town of Danville.

Alamo's police services are supplied by the Contra Costa County Sheriff's Office which presently operates a sub-station three. Budget implications could close that facility. The California Highway Patrol provides traffic related enforcement/patrol on the streets and roadways here. The Town of Danville has contracted with the Contra Costa Sheriff's Office to provide its police services. All of the agencies may be called upon to respond independently, or, in conjunction with any of the others listed to a given incident.

To determine appropriate protocol, an agreement would be developed among the agencies effected to provide guidelines in the handling of police matters. Public Safety has vast experience and the specific resources to address Police related issues in environments such as staging areas and trails. This would include horse mounted units, helicopter capabilities, and dirt motorcycles. Facilities such as this would increase demands for service on Public Safety. Public Safety could draw upon experiences at other staging areas with similar features that are located in close proximity to residences, such as Wilson Point, Bishop Ranch, Reliez Trailhead, and the Coach Lane staging area to Sobrante Ridge. Depending on the frequency of incidents, unauthorized uses could have an adverse impact on existing police services and the quality of life in the local area. With the following mitigation, impact levels should be less than significant:

Mitigation:

- Site staging areas as far from residences as feasible. Sight lines should allow for surveillance from adjacent roadways/public lands.
- Utilize effective design and operation of the staging areas to deter vandalism and unauthorized activities. Security measures would include control gates, tire spikes, and enforcement of the District's park curfew.

Impact: Bollinger Canyon Road would be abandoned as a county maintained north of the intersection to the TRACOR property. The EBRPD would take over maintenance of the abandoned portion of roadway.

Mitigation: The LUDP includes establishment of a security residence at the house located adjacent to the Little Hills picnic park parking lot. The main gate at Bollinger Canyon would be moved south near the entrance to TRACOR, which is close to the security residence.

Fire Protection Services

Impact: A major objective of the LUDP is to enhance response time for fire prevention and rescue by improving the park's fire trail system, including development or establishment of new service vehicle access to the park. These actions will have a

beneficial impact on fire protection and fire suppression activities for the park and adjacent residential areas. Improved fire-fighting access, particularly into the Devil's Hole area and along the eastern edge of the parkland near the developed communities of Alamo and Danville, will reduce the risk of large wildfires and subsequent threats to nearby communities. Several additional actions in the LUDP would also have beneficial impacts on fire protection services, including continued grazing, disking, and mowing programs to reduce fuel levels, maintenance of existing water tanks and ponds, monitoring of fuel buildup in the northeast portion of the park, and park closure when weather factors indicate high hazard or the state notifies the District of "Red-Flag Alert" status.

Mitigation: The LUDP identifies several actions (as mentioned above) to ensure adequate fire protection. No additional measures are required.

Impact: The LUDP includes provisions for increased public access and use along the park's eastern boundary adjacent to the communities of Danville and Alamo, including construction of new staging areas and trailheads and extension of a designated regional trail. Increased use associated with these developments could potentially increase the likelihood of human-caused fires in the area, but it is unlikely that the risks would be greater than they are now or that they would be less if the LUDP were not implemented. Public access already exists in the area, and use levels would be likely to increase (potentially increasing fire danger) even if no developments were proposed. Improved fire fighting access, security patrols, and other actions identified in conjunction with new recreational developments along the park's eastern and southern boundaries would serve to reduce the fire hazard risks, probably to a level below the current level. To further reduce fire hazard, the LUDP includes the following measures.

Mitigation:

- Establish a no-campfire policy for the Las Trampas parklands.
- Clearly sign and enforce the no-fire policy and educate the public (through signs and interpretive displays) on the dangers of wildfires and the day's hazard level.
- Close the park, or certain areas of the park, when weather factors indicate high hazard or the state notifies the District of "Red-Flag Alert" status.
- Continue grazing, disking, and mowing programs to reduce fuel levels.

- Monitor fuel build-up in the northeast portion of the park, adjacent to Alamo and Danville, every six months.
- Continue to work with other responsible fire-fighting agencies to improve prevention, response, cooperative fire-fighting techniques, and education of the public.
- Establish a joint agencies group to speak to homeowners' groups regarding wildland fire home watch programs.

Water and Sewer Services

Impact: The East Side staging areas would include public restrooms with either chemical toilets or flush toilets connected to the public sewer (Central Contra Costa Sanitary District). The public water supply may be connected to these staging areas. Because of the small size and service limitations of the proposed staging areas on both the southern and the eastern edges of Las Trampas, these actions would not have a significant impact on water and sewer services.

Mitigation: None required.

Impact: The two septic tank/leach field systems at Little Hills and the leachline serving the service yard at Holly Court and CDF may not be adequate to serve these facilities over the long term. The effectiveness of these facilities may diminish over time as soils reach their capacity to treat wastewater. The septic tank and leachfield serving Holly Court is contaminating the groundwater. Strain on existing facilities is a potentially significant impact, but the LUDP includes for mitigation as follows.

Mitigation:

- Leach systems and septic tanks for Little Hills would be rehabilitated or rebuilt when necessary.
- If municipal sewer lines are extended into Bollinger Canyon, the District would tie into this system.
- The District would work with the Central Contra Costa Sanitary District to identify measures to limit the potential growth inducing impacts of a new sewer line.

Impact: The existing water supply line serving Holly Court, the Bollinger Canyon staging area and Corrales Camp was put in place without benefit of professional engineering or

annexation to the EBMUD service area. The existing spring water supply for the Little Hills and Las Trampas stables requires extensive maintenance to maintain water quality standards. The marginal nature of existing facilities may adversely affect the public drinking water supply in Las Trampas. The LUDP includes the following mitigation:

Mitigation:

- Annual water tank clean out and leachline inspection would be performed.
- If municipal water lines are extended into Bollinger Canyon, the District would tie into this system.
- The District would work with the east Bay Municipal Utility District to identify measures to limit the potential growth inducing impacts of a new water line.

11. PLANNING AND LAND USE

Setting

The Las Trampas Regional Wilderness is located primarily within Contra Costa County, on unincorporated land adjacent to the communities of San Ramon, Danville, Alamo, Walnut Creek, Lafayette, and Moraga. A small portion of the park's southern end on Rocky Ridge is within Alameda County. The southwestern edge of the park is adjacent to East Bay Municipal Utility District watershed and recreation management areas. The Little Hills Regional Recreation Area is entirely within Contra Costa County, as are the Remington Loop and the Southern Parcel, which are south of the Las Trampas park on the western border of Danville (see Figures 1-1 and 11-1, in Section I of the Land Use-Development Plan). The Las Trampas to Mt. Diablo Regional Trail link between Hap Magee Park in Danville and Las Trampas park is in unincorporated Alamo.

The 1989 East Bay Regional Park District Master Plan classifies Las Trampas as a "Regional Wilderness," Little Hills as a "Regional Recreation Area," and the Las Trampas to Mt. Diablo Trail as a "Regional Trail." The proposed Land Use-Development Plan and Natural Resource Management Plan seek to implement the concepts and policies of the Master Plan. In addition, the District's Draft Interpretive Master Plan calls for a "mini" interpretive center at the Las Trampas facility.

The Resource Analysis (EBRPD, 1991) examined the following national, state, county, and city plans:

- State of California Recreational Trails Plan, Hiking and Equestrian Element, 1978
- State of California Mt. Diablo State Park Preliminary General Plan
- Contra Costa County General Plan, 1991
- San Ramon General Plan, 1986
- Danville General Plan 2005
- Danville Town-Wide Trails Master Plan, 1989
- Danville Parks and Recreation Facilities Plan, 1989
- Alamo Park, Open Space, Conservation and Recreation Plan, CSA R-7A, 1985
- Danville/Alamo, Hap Magee Ranch Park Master Plan, 1988
- Contra Costa County San Ramon Valley Iron Horse Trail Draft Master Plan, 1988
- Walnut Creek General Plan Vision 2005, 1989
- Lafayette General Plan
- Moraga General Plan, 1979
- Moraga Comprehensive Parks and Recreation Master Plan, 1975
- Lafayette, Moraga, Contra Costa County Bollinger/Hunsaker Goals and Policies, 1984
- Alameda County Open Space Element of the General Plan, 1989
- East Bay Municipal Utility District Land Use Master Plan, 1971
- Eugene O'Neill National Historic Site EIS and General Management Plan, 1990

The 1991 Resource Analysis has been publicly reviewed, and the discussion of these plans is incorporated by reference into this EIR. In summary, these plans support the continued operation of the Las Trampas area for park and recreation uses. Several of them support the concept of the Las Trampas to Mt. Diablo Regional Trail, adequate access points, and interconnecting trail system between local and regional park facilities:

- The Danville Trail Plan map indicates staging areas at the Magee Ranch Park and San Ramon High School and southeast of the Remington Loop.
- Concerning the link between Magee Ranch Park and Las Trampas, the Danville Town Council approved the Hap Magee Master Plan, including a bridge for pedestrians and horses over San Ramon Creek, a trail along Camille Lane, and a crosswalk across Danville Boulevard (with appropriate signage) at Camille Avenue for pedestrians, bicyclists, and equestrians.

Land uses bordering the Las Trampas Regional Wilderness include open space for agriculture and ranching, rural residential, watershed management, natural reserve, and

private recreation uses. Unincorporated agricultural lands permit residences at a maximum of 1 dwelling unit per 100 acres for lands bordering Las Trampas to the south in Alameda County and 1 dwelling unit per 5 acres (0.2 units/acre) in Contra Costa County, and there are several residences in Bollinger Canyon and on the Lafayette/Moraga side. Between the Las Trampas unit and the Remington Loop, very-low-density single-family residential uses (0.2–0.9 units per net acre) are permitted in the unincorporated area. The National Park Service manages the 13-acre Eugene O'Neill National Historic Site on the east side. A private company, TRACOR Aerospace Inc., occupies part of a former NIKE Base on Bollinger Canyon Road above the existing paddock for Las Trampas Stables. Adjacent to TRACOR, the State of California uses the rest of the former NIKE Base to support fire fighting and pest management activities of the Division of Forestry. CDF leases a portion of this property to the District for its service yard.

The proposed Regional Trail and staging areas on the east and southeast sides of the park are located in suburban residential neighborhoods in Alamo and the town of Danville. Limited commercial and institutional uses are also present in this area.

Impacts and Mitigation

The CEQA Guidelines Appendix G state that a project will normally have a significant environmental effect if it will (1) conflict with adopted environmental plans and community goals, (2) convert prime agricultural land to non-agricultural use or impair the productivity of prime agricultural land, or (3) disrupt or divide the physical arrangement of an established community. For this EIR, a potentially significant land use and planning impact would result from a conflict with existing general plan land use designations and policies or an incompatibility with surrounding land uses.

Consistency with Existing Plans

Impact: The proposed project is generally consistent with local, regional, and state plans for parks, recreation, and trail facilities. County and city general and specific plans to date acknowledge the park facilities, open space land uses, and recreation concepts. Although county, city, and special district plans include the park facility and promote trail access, the National Park Service (NPS) plan for the Eugene O'Neill Historic Site does not provide for public access for development of any facilities or access to Las Trampas (EBRPD, 1991). The District's proposed plan does not site a new staging area at this location. The Las Trampas LUDP shows an existing service/fire access road through the O'Neill site to the Madrone Trail and the Del Amigo Trail, but the service road is not a public hiking or riding trail until it enters Las Trampas. Thus the LUDP is generally consistent with the NPS General Management Plan. Access to the historic site is by shuttle bus via a private road (Kuss Road) where private vehicle access is not permitted.

The park includes two other, separate parcels on Las Trampas Ridge: the Remington Loop and the Southern Parcel. The off-site proposed staging areas and access/trail routes to the Remington Loop are those indicated on the Danville Trail Plan. The Danville Trail Plan map does not show trail access to the Southern Parcel, but this access would be granted through a subdivision dedication. In conclusion, the proposed LUDP is consistent with local, regional, State, and National Park Service plans for land use and recreation. It would not adversely affect these plans.

Mitigation: None required.

Relocation of Paddock

Impact: The LUDP includes a potential future option to locate a small paddock at Holly Court. The introduction of a paddock area (0.5 acres, for approximately 10 horses) to the Holly Court area is consistent with the Contra Costa County land use designation of Agricultural Land (AL). This designation allows (through issuance of a land use permit) horse training and boarding ranches. The proposed paddock area is an extension of the Las Trampas Stables operation. The County permit process includes "conditions of approval" to address potential concerns (if any) from adjacent property owners or County agencies.

Mitigation: None required.

12. FISCAL ISSUES

Setting

The East Bay Regional Park District receives income from concessions and grazing. The District contracts with a concessionaire to operate, maintain, and promote the 20-acre fenced Little Hills picnic park. The concessionaire operates the reservation facility for 50–1,400-person groups from 5:30 pm to midnight, 1 May - 31 October. The District receives 11 percent of the gross income from facility operations. In 1991, the District received \$105,000; in 1990, \$98,700. The current contract is valid until 1993.

Las Trampas Stables is operated under a contract that is in effect until 1995. The stable management enters into a written month-to-month agreement with its equestrian boarders that is approved by the District. The maximum capacity under existing operations is 131 horses, including 40 in stalls in the barn. Occupancy in March 1992 was 110 horses. The District charges the stable operators a fixed fee of \$18,081 per year.

The District leases the grazing operations in the three range management units to individual ranchers. Ranchers are charged fair market value for the privilege of using

park land for livestock grazing. Fees are based on Animal Units per Month (AUM). For 1991, this fee was \$14.05/AUM; for 1992, it is \$14.50/AUM. In 1991, the District received \$13,150. For previous "normal rain years," the District has received about \$20,000 annually.

Impacts and Mitigation

Fiscal issues are included in this EIR because they indirectly relate to physical environmental changes. CEQA does not require an analysis of fiscal impacts, but economic feasibility and fiscal impacts are important in the District's selection of preferred alternatives for the Little Hills Recreation Area.

Little Hills Picnic Park

The LUDP indicates the District's plans to make capital improvements to the facility. These improvements may include relocation of buildings, enlargement of the fishing pond, and fencing along the creek. The existing house is to be converted from a rental property to a security residence. Improvements are proposed to enhance the aesthetic quality of the facility. The existing use is not to be expanded to accommodate more visitors. With no increase in use, revenues are not expected to increase, and fiscal impacts to operations are not expected to change.

Las Trampas Stables

The District conducted a financial analysis of stable operations based on an audit carried out in 1992. Assuming one guide horse for every five rentals, a barn or stall rent of \$240 per month, a reasonable profit margin, elimination of interest expense, and reduction of bad debt to \$1,000 annually, 89 horses can be accommodated: 40-45 boarding horses in barn and 40-49 rental and guide horses in paddock. The boarding barn could increased by 5 stalls, which would offset reduced revenues from the elimination of 9 trail ride horses. This plan would offset losses from pasture boarding.

C. PROJECT ALTERNATIVES

The CEQA Guidelines require that an EIR describe a range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project, and to evaluate the comparative merits of the alternatives. CEQA Guidelines also require that the range of alternatives considered include a "No Project" alternative.

The East Bay Regional Park District's Land Use Development Plan (LUDP) and its included Natural Resources Management Plan (NRMP) represent the "preferred

alternative" for future development and management of Las Trampas Regional Wilderness, the Little Hills Regional Recreation Area, and the Las Trampas to Mt. Diablo Regional Trail. The District considered several alternatives in selecting the preferred alternative. Specific policies and actions associated with the LUDP and NRMP are described in detail in Section III. The environmental impacts expected to result from implementation of these actions are described in this Section IV.

The following section presents a summary of the preferred alternative, followed by a discussion of other alternatives, including the "No Project" alternative. Because the LUDP and NRMP consist of numerous specific actions or plan elements (e.g., trails, facilities, staging areas) for each of the three respective park units, the following discussion is organized by park unit and focuses on various components of the plans.

The issue of staging areas and east side access to Las Trampas is discussed under the Regional Trail park unit.

1. LAS TRAMPAS REGIONAL WILDERNESS

Summary of the Preferred Alternative

The objective of the District's preferred alternative is to maintain and enhance the wilderness experience and to bring Las Trampas (including the Remington Loop and Southern Parcel) into consistency with the 1989 Master Plan. The trail system is to be modified to remove some trails completely and to re-route others on the basis of avoiding sensitive habitat areas and geotechnical concerns. More of the trails are to provide service access. A new interpretive nature center is to be constructed, and parking areas and picnic facilities in Bollinger Canyon are to be expanded. In addition to the main staging area in Bollinger Canyon, a new staging area on the southwestern side, accessible from Cull Canyon Road, is proposed. A new staging area in south Danville corresponds to one indicated in the Danville Trail Plan (Danville 1989). Bicycle use within the park is to be discontinued. Existing vegetation management techniques would continue, including grazing in portions of the park. Part of the improved operations/management program is to relocate the park entrance gate to the Bollinger Canyon area near the Little Hills facility and entrance to TRACOR.

Impacts include removal of vegetation to widen or maintain trails, to construct the nature center, and to add unpaved parking areas and picnic facilities in Bollinger Canyon. Closure of park trails to bicycles impacts bicycle use. These impacts are less than significant. New facilities have been sited specifically to avoid special-status plants and animals. With appropriate grading and drainage, impacts on surface water quality would be minimal. Impacts on bicyclists are less than significant, because there are numerous other opportunities for bicyclists in the project service area. Beneficial impacts include

re-routing of trails away from habitats sensitive to human disturbance and improved fire/service access to allow improved maintenance, reduced fire hazard, and increased recreational opportunities. The plan for Las Trampas Stables may have significant impacts on surface water quality.

No-Project Alternative

Under the "No Project" alternative, a LUDP would not be prepared or implemented for the Las Trampas Regional Wilderness. The parklands would continue to be managed under the general direction of the District's 1989 Master Plan without site-specific land use or resource management policies or guidelines. Existing recreation facilities, including trails, would remain unchanged. No additional public access to the park would be sought. Use of mountain bikes on selected trails would continue (despite inconsistencies with the area's wilderness designation). Runoff from the facilities of Las Trampas Stables would continue to drain into Bollinger Creek.

Environmental impacts associated with this alternative include human disturbance of special-status species plant and animal habitats, accelerated soil erosion due to limited trail maintenance (from poor access), inadequate service access for security and fire protection, significant contamination of the Bollinger Creek from runoff, and a failure to accommodate existing or future recreational demand.

Maximizing Resource Protection

Under this alternative, the primary goal of the LUDP would be, as in the preferred alternative, protection and enhancement of natural resources. Recreational use and development would be considered to be of less importance than the preferred plan. Several existing trails would be closed, providing only a few basic loops and minimal fire protection. No bicycle use would be allowed in the park, and equestrian opportunities would be limited by the reduced trail network. Nature education would be provided through signs and brochures but no nature center.

The benefits of this alternative are that the "wilderness" concept and resource protection in non-trail areas would be maximized. Less of the area would be disturbed by human activities than with either the Preferred or the No-Project Alternative. This alternative would not accommodate existing recreation demand. Assuming that current and future demand for use of the park for hiking/riding and picnicking would be proportional to regional population growth and demographic changes in the San Ramon Valley and Central Contra Costa County, a reduction in facilities could lead to overuse of a reduced trail network and existing group camps and picnic areas. These facilities could deteriorate, requiring more maintenance, especially trail maintenance. More hikers and riders on fewer trails would also mean a greater potential for user conflicts and a

reduction in the overall quality of the recreational experience of relative isolation on these trails.

No Grazing

Grazing is a primary vegetation management technique to reduce wildland fire hazard. Given the park's close proximity to residential areas, removal of grazing presents a potential adverse impact of removing a fire safety mechanism. Elimination of grazing would also reduce revenues to the District, which could impact revenues for park maintenance.

Provision for More Intensive Recreational Use

The primary objective of this alternative would be to enhance recreational opportunities in the park and to provide for increased use. More intensive use would likely mean changing the parkland classification to Regional Preserve or Regional Park to accommodate a larger nature center, more family picnicking, more group camps, more access points and staging areas, more trails and bicycle use. Bicycle use options would include designating a regional trail route through the park, allowing bicycles on any two-track trail, converting some one-track trails to two-track and permitting bicycles, and/or opening one-track trails to bicycle use.

Adverse impacts associated with this alternative include degradation of natural resources (especially in sensitive habitat areas with trail access), a loss of the wilderness feeling with more visitors, infeasibility of converting one-track to two-track trails, because of geotechnical constraints, and greater difficulty and expense in managing park resources and facilities. Regional park facilities close to Las Trampas but offering more intensive recreational uses include Diablo Foothills and Castle Rock. Continued management of Las Trampas as a wilderness park does not preclude options to intensify use beyond the 20-year time frame of the plan.

2. LITTLE HILLS REGIONAL RECREATION AREA (PICNIC PARK AND LAS TRAMPAS STABLES)

Summary of Preferred Alternative

Picnic Park: The Preferred Alternative is to maintain existing "reserved group only" conditions with limited capital improvements (relocation of structures and site improvements). The facility currently operates at maximum capacity, which sometimes results in overflow parking along Bollinger Canyon Road. No additional parking is planned for Little Hills. Although the facility is located along Bollinger Creek, it does not appear to have an adverse impact on the creek.

Las Trampas Stables: The Preferred Alternative reduces the number of horses to be accommodated from the present 110 (131 maximum) to a maximum of 89 (40-45 boarders in barn, 40-49 rental and guide horses in paddock and pasture). The existing 40-stall barn could be expanded by 5 stalls, and stalls and pens adjacent to the creek would be removed. New stalls would be set back at least 50 feet from the creek. The paddock on the east side of Bollinger Canyon Road would be eliminated, except for the portion at the TRACOR entrance and around the hay barn that is for seasonal use for mares and foals or sick animals. The hay barn would remain. A new paddock (pasture) for a maximum of 9 horses would be established on a 2.5-3 acre paddock within the 50 Acre Pasture area near TRACOR. An option is to use the lower part of the Holly Court site (0.5 acres) for 10 horses through a lease with the State of California. While the increased setback from the creek, proper grading and drainage of the new paddocks, manure management practices, and the reduction in the number of horses are together expected to reduce the amount of pollution draining into Bollinger Creek from existing levels, it is uncertain that the reduction would result in compliance with water quality standards. Therefore, this alternative presents an improvement over existing conditions, but overall a potentially significant adverse impact on the quality of surface waters remains. In addition, the reduction in the number of horses reduces the existing service level to the public and recreational opportunities for equestrians.

No-Project Alternative

Picnic Park: The No-Project Alternative is the same as the Preferred Alternative without any site improvements. The potential impacts of this alternative are the gradual deterioration of park facilities.

Las Trampas Stables: Under existing conditions, no horses would be relocated; existing facilities to accommodate up to 130 horses would remain. The No-Project Alternative has a significant adverse impact on water quality in Bollinger Creek through contaminated runoff from the facilities on both sides of Bollinger Canyon Road. Boarding services and revenues would not be affected. The bare earth and the overcrowded visual impact of the Eastern Paddock would remain. This alternative was rejected due to its significant adverse impacts.

Less-Intensive Use

Picnic Park: Less-intensive use could mean reducing the operating season or reducing the number of people served at one time. While this reduction in use would solve the overflow parking problem, the operation would experience a reduction in revenues, and recreational opportunities for group picnics would be reduced. A reduction in reservable group picnicking at Little Hills could impact other East Bay Regional Park which offer reservable group picnicking, primarily Castle Rock Park, near Walnut Creek and adjacent

to the Diablo Foothills. Typically, a Castle Rock weekend day is booked at a maximum of 1,200 persons, so it could not accommodate a significant shift in users from Little Hills without revisions to the LUDP for Castle Rock. This alternative was not selected, because it would not meet the District's objective of continuing to accommodate existing demand for reservable group picnicking at the Little Hills picnic park.

Las Trampas Stables: Less-intensive use means either a reduction in year-round use of the stable facilities and paddocks through seasonal use only or a reduction in the number of horses boarded year-round to a daily average of less than 85-89 horses. Limiting the stable operations to seasonal use means that horses would be boarded off-site at other facilities during the winter months (November through April). In the absence of drainage improvements, a reduction in the number of horses year-round or restriction of use to the May through October summer, non-rainy season would reduce the contamination of Bollinger Creek. It is not clear from existing data whether this reduction would be enough to reduce the impact to surface water quality to a less-than-significant level.

With one exception, the Less-Intensive Use Alternative for the Las Trampas Stables is not economically viable. A reduction in use by boarders and/or rental horses would reduce revenues unless fees can be raised to compensate for the income loss. The District evaluated the financial feasibility of several alternatives for the size and operation of Las Trampas Stables. The financial analysis examined reductions, in the numbers of boarding horses and rental horses as well as seasonal use. The following alternatives (constituting less-intensive use than the preferred alternative of 89 horses year-round) were determined to be infeasible without District subsidy and were rejected:

1. no boarding, 40 rental horses in barn, summer use only
2. 20 boarding and 20 rentals in barn; 40 in barn in summer, 20 in barn and 20 in paddock in summer
3. 20 boarding and 20 rentals in barn, year-round
4. 30 boarding and 30 rentals; boarders in barn in summer and paddock in winter; rentals in paddock in summer and off-site (non-District land) in winter
5. no boarding (eliminates 40 from barn/pens and 31 from East paddock)
6. no horses for rental, pony rides, and lessons (eliminates 3 ponies from pen and 43 from East paddock)
7. no horses for pony rides and lessons (eliminates 3 ponies from pen and 10 horses from East paddock)

8. no ponies; use lesson horses for rental.

Besides the preferred alternative of 89 horses, the only financially viable alternatives that were considered are:

9. 73 boarders (40 in barn, 33 in paddock), no rentals - rejected because it eliminates the trail ride/rental opportunities for the public and therefore reduces recreational opportunities for non-horse-owning park users.
10. 85 horses; 45 boarding, 40 rentals; requires building 5 covered stalls - rejected because of need for capital/outlay.
11. 95 horses; 45 boarding; 42 rentals; requires building 5 covered stalls - rejected because of need for capital/outlay.
12. 103 horses; 45 boarding; 58 rental; summer string only, rentals on offsite District land in winter - rejected because of reduced recreational opportunities for general public in winter.
13. 100 horses - 50 boarding and 50 rental - 40 horses offsite in District paddock in winter - rejected because difficult to obtain needed boarders for required income.
14. 101 horses - 48 boarding and 53 rental - 40 horses offsite in District paddock in winter - rejected because difficult to obtain needed boarders for required income.

More-Intensive Use

Picnic Park: This alternative would involve facility improvements to accommodate more than the current capacity of 1,400. While the site acreage could potentially handle additional people, the facility would have to be expanded to accommodate additional parking. Such an expansion could occur across Bollinger Canyon Road, but it introduces safety concerns. Enlargement of the facility would generate additional traffic on Bollinger Canyon Road. The More-Intensive Use Alternative could mean opening the facility to the public for non-reservation/drop-in use to provide greater picnic opportunities for families. This alternative was rejected by the District because it does not reduce the proposed project's significant environmental effects and there is not an existing demand for the facility to be opened to the public (as there is at Castle Rock). Little Hills also books more days per week than Castle Rock. Reserve groups like the limitation to reservation-only use. Whereas a majority of East Bay parks are already open to the public, only three have group facilities that are reserved for large groups.

Las Trampas Stables: This alternative would involve expansion of existing facilities, with additional or larger paddock or pasture areas to accommodate more than the 89 horses of the Preferred Alternative. Additional pasture options include a larger area at Holly Court, a larger site in the existing 50-acre pasture area north of the existing paddock, and a paddock across Bollinger Creek with access to the existing stable by a new bridge. The original 15-acre pasture (with less than 4 acres in use) could be reopened. To be environmentally acceptable, all of these expansion options would need drainage improvements to ensure that runoff does not drain into Bollinger Creek. The installation of a runoff collection and storage/treatment system to the existing stable area could make expansion of the stable capacity a viable alternative over the long term to help recover the cost of the improvements, but the initial cost of such a system could make this alternative infeasible. The 15-acre pasture was not selected by the District, because of adverse visual impacts; but with adequate drainage improvements and screening, a portion of that site, near the TRACOR premises, might be feasible for use although the cost of drainage collection and treatment could make this alternative infeasible.

Other Specific Alternatives

Close Stable: The existing facility would be closed. This action would remove the stables as a source of contamination to Bollinger Creek. Although this is an environmentally superior alternative, it was rejected by the District due to loss of revenues and loss of recreational opportunities for equestrians at Las Trampas.

Relocate Stable: This alternative is to relocate the entire stable facility off-site, because no better on-site locations for it were identified. Relocation would remove the stables as a source of contamination to Bollinger Creek. Existing site conditions suggest that contaminated runoff would continue, but at reduced concentrations, over time. In order to maintain equestrian opportunities at Las Trampas, the relocated stable would need to remain in the immediate area and have trail access to Las Trampas. Except for the California Division of Forestry facility and Holly Court, all property near Bollinger Canyon is privately owned. Recent development in this agricultural area includes new housing on large lots (five or more acres). With this type of residential/ranchette pressure on land in the vicinity of Las Trampas, land values are expected to be high, making purchase by the District expensive. Other land acquisition options include land donations, but this is not likely to be a short-term solution. The District could evaluate future acquisition opportunities to determine the viability of off-site relocation in the light of existing and future capital improvements needed at the site.

Stable Runoff Control Alternatives: The main objective is to prevent contaminated storm water from reaching the groundwater or surface water in Bollinger Creek Site. This could be achieved by several different methods. Three possible methods of mitigating this adverse impact are the following:

1. Install a drainage or holding pond: Under this alternative, the District would install a system to intercept the storm water runoff, collect it in a drainage pond, and allow it to infiltrate into the ground. This measure would be the simplest to implement. A drainage pond could be installed on District property to collect and hold the stormwater runoff from the main facility and nearby paddocks; however, space is limited and existing facilities would have to be removed. The effects on groundwater quality would need to be investigated, as well as the effectiveness of concentrating waste products in the pond and any associated health concerns. Holding facilities for runoff from the horse stables would collect waste products, which might cause an odor nuisance. Prevailing winds would tend to carry odors down (southeasterly) through Bollinger Canyon. The odor nuisance could be minimized by proper operation of the holding pond, i.e., adequate aeration and water circulation, to reduce the incidence of anaerobic conditions conducive to odor formation.
2. Package sewage treatment plant: Another alternative is to collect and treat the stormwater runoff from the stable. This would entail installing a package sewage treatment plant and a collection system. This would be a costly option but one that would most likely reduce adverse impacts on water quality to a less-than-significant level.
3. Connect to public sewer: The District could install a storm drainage system and connect it to a public sewer line (if cost-effective). This is not normally acceptable to the Central Sanitary District, and special arrangements would need to be made. At this time no sewer line extends up Bollinger Canyon Road, but there is a possibility that one could be extended to this location. Normally storm water runoff is not allowed to be discharged to a sanitary sewer line. Therefore, proper arrangements with the sanitary district would need to be made to allow this non-standard connection to the system.

3. REGIONAL TRAIL LINK AND EAST SIDE STAGING: LAS TRAMPAS TO HAP MAGEE PARK

Summary of Preferred Alternative

The Preferred Alternative establishes the regional trail link for hikers and equestrians along Camille Avenue, from Hap Magee Park across Danville Boulevard and along the public right-of-way of Camille Avenue to the intersection with Camille Lane (a private road). Beyond this point the trail alignment is not sited. Access to the Madrone Trail and staging area for hikers and equestrians west of Camille Avenue to accommodate 10–40 vehicles will be sited. Other possible staging areas are the Rancho Romero School on Hemme Avenue (weekend use only, 10–20 vehicles, no equestrian use) and a new

staging area (10–40 vehicles) to be sited at the west end of Hemme Avenue. Fire/service access only (no public motor vehicle access) from Camille Lane to Madrone Trail and from an extension of Lark Lane to Madrone Trail are proposed.

The Camille Avenue regional trail route was selected by the District because it is the most direct route, impacts the fewest homes, has good width, gradient, and visibility for vehicles and trail users in the on-road portion and is primarily within an existing public right-of-way. The proposed staging area near the end of Camille Avenue was determined by the District to best support the Regional Trail Link.

No-Project Alternative

Existing public access to Las Trampas is provided from South Avenue, west of Camille Avenue, and from Starview Drive. Neither of these access points has a staging area. There is no formal link between the Las Trampas Regional Wilderness and the present end of the Las Trampas to Mount Diablo Regional Trail at Magee Ranch Park in Danville. The No-Project Alternative does not comply with regional and local policies to extend the Regional Trail and to improve public access to Las Trampas for residents of the Walnut Creek, Alamo, and Danville portions of the facility's service area. This alternative fails to provide for the improved fire and service access, which would result in continued maintenance problems and fire safety concerns. Continuation of limited access would restrict recreational opportunities for hikers and equestrians and increase gasoline consumption by requiring some users to drive a longer distance to the Bollinger Canyon Road staging area.

Other Regional Trail Alternatives

The District evaluated seven trail route alternatives based on the following criteria:

- The direct route is easy to understand (minimum number of jogs and turns).
- The route minimizes the number of homes it passes.
- The on-road portion of the route has good width, gradient, and visibility for vehicles and trailers.
- Staging is possible.
- The route from the west end of the public roadway into the park has a good gradient and topography.

- The roadway is primarily within an existing public right-of-way or an area where conditions of subdivision could aid the trail.
- There would be a crossing at Danville Boulevard to Hap Magee Park and the Iron Horse Trail.

From this evaluation, Hemme and Camille avenues were selected as the two best routes. More detailed analysis revealed that Camille was preferable: Hemme Avenue does not have adequate public right-of-way along its entire length, and there is no curb separation for pedestrians, whereas Camille Avenue does have these features. However, Hemme remains a viable alternative.

An alternative to using the street for the trail is to allow equestrians to use the unpaved portion of the right-of-way. Limited clearing and/or relocation of shrubs and ground cover and placement of a 5-foot wide path would be necessary. This alternative was considered less desirable than using the existing street and sidewalk because affected residents would lose landscaping, fencing would be relocated, and manicured appearance would be disrupted. However, this remains a viable alternative.

Other Staging Alternatives

The potential regional trail routes were evaluated for staging opportunities, and most were rejected, in large part because suitable sites were lacking. The South Avenue and Del Amigo/Starview Drive areas are substantially developed, with no appropriate space for staging. Other staging area locations could include purchase of a site near the Iron Horse Trail in the Alamo/Danville area, but the staging area would likely be surrounded by residences and more difficult to screen. The possibility of weekend use of the private parking lot at the construction company site on Camille Avenue could be explored.

D. IMPACT OVERVIEW

1. UNAVOIDABLE ADVERSE IMPACTS

Unavoidable adverse impacts associated with the LUDP involve grading and construction for additional parking lots and service roads, runoff from the stables into Bollinger Creek, flood hazards at Little Hills, and wildland fire hazards. These impacts would occur to some degree even though the proposed plan includes mitigation measures to minimize some of them.

Grading and Construction

New facilities proposed for the Las Trampas Regional Wilderness area include an interpretive nature center (3,500 square feet) and adjacent unpaved parking for an additional 100 vehicles near the existing staging area at the park entrance from Bollinger Canyon Road. On the east side of the wilderness area, two new staging areas are proposed for the ends of Hemme and Camille avenues. Parking areas are also planned at access points to the Devil's Hole area and the Remington Loop area. Additional parking for approximately 7–10 horse trailers is to be provided adjacent to Little Hills near the Elderberry trailhead. The relocated paddock would need to be graded to ensure proper drainage.

Grading produces short-term air and water quality impacts: it removes existing vegetation, exposes soil to erosion, and produces dust. Dust control measures that do not cause runoff into the creek and construction during the non-rainy season can minimize these impacts. Grading would be subject to the grading permit requirements of Contra Costa County.

Limited grading would be necessary to create new service roads in order to improve fire protection vehicle access.

Runoff

Runoff from the stable yard and the Eastern Paddock drains into Bollinger Creek. Without installation of a collection system, runoff would be likely to continue to contaminate water in the creek to some extent, an unavoidable impact of the project defined in the LUDP. The Eastern Paddock is to be closed except for two small holding areas for seasonal day use by rental horses for the trail rides. Runoff from these holding areas (as well as any paddock at Holly Court) would need to be managed to avoid creek contamination. Implementation measures may not completely mitigate adverse impacts.

Flood Hazard

The Little Hills Recreation Area facilities are located in the 100-year flood zone as identified by FEMA. Until specific studies define the exact nature of the potential flood velocities, inundation levels, and extent of flooding, and a mitigation plan is implemented, existing and planned facilities and their users are subject to flood hazard.

Wildland Fire Hazard

There is potential for wildland fires to damage property and habitat both on-site and off-site. The LUDP identifies the use of prescribed burning by the District as a vegetation

management technique to reduce wildland fire hazard, but it also presents the opportunity for an escape which could damage habitat (Special Protection Units) and public and private property.

2. IRREVERSIBLE ENVIRONMENTAL CHANGES

The construction of new staging and parking areas and the nature center as proposed represent a change in park facilities for the foreseeable future. Grading and vegetation removal for the nature center, parking, and fire roads represent irreversible losses of (insignificant) existing resources. The nature center adds a structure with a life expectancy of 50 years or more to the park facility.

3. SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY

The uses and resource management strategies proposed in the District's LUDP are designed to meet long-term goals consistent with the District's 1989 Master Plan. None of the project elements represent short-term benefits at the expense of maintenance and enhancement of long-term productivity. The project is needed at this time in order to appropriately manage resources and respond to the public's need for additional park facilities and access.

4. GROWTH-INDUCING IMPACTS

The proposed project is designed to bring the Las Trampas/Little Hills areas and related park facilities into compliance with the District's adopted 1989 Master Plan. Parking and access improvements are proposed to accommodate existing and future demand from residents in the park's service area. Public use of the facilities at Las Trampas is expected to show an increase commensurate with overall population growth in the service area. Since the Little Hills picnic park is a "reservation-only" facility and is not planned for expansion, it would continue to operate at its present capacity.

The proposed LUDP (and NRMP) are not expected to stimulate population or economic growth within the service area. The interpretive nature center would house three full-time District employees and two part-time student aides. These would be new employees to the District, but this small number would not be growth-inducing. Proposed construction and maintenance activities are not expected to stimulate significant job growth.

The future extension of sewer and water lines to the facilities at the end of Bollinger Canyon Road by others could facilitate development along that road and that development could have adverse environmental impacts. Since the EBRPD is not the land use authority for this area it would have no direct control over this potential. The

EBRPD can, and would participate in the planning and environmental review process to help avoid adverse potential impacts.

5. CUMULATIVE IMPACTS

The primary cumulative impact issue is the impact of equestrian activities on Bollinger Creek. Horses and other animals are kept by homeowners and at stables downstream of the existing Las Trampas Stable facility, and it is possible that contamination of the creek from animal manure occurs from these off-site sources. The contaminated runoff from the Las Trampas Stables is in addition to that from downstream users. However, the concentration of animals downstream is significantly less than that of the 89 horses stabled on District land (except for a commercial stable in Cull Canyon), and that dispersed contamination is not likely to have the same impact on the receiving waters.

The Las Trampas Regional Wilderness Area is one of three existing wilderness areas in the East Bay Regional Park District. (The other two are Sunol and Ohlone.) No additional wilderness areas are planned by the District, although land additions to these areas may be proposed in the future.



APPENDICES

APPENDIX A

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APPENDIX B

PLANNING PROCESS

1. Purpose and Role of the East Bay Regional Park District

The East Bay Regional Park District ("EBRPD" or "District"), is a State authorized Special District of Contra Costa and Alameda Counties. The District contains 47 parklands occupying 70,000 acres of land and 11 regional trails. The District derives its powers from State Public Resources Codes, Section 5500-5595. These sections: (1) established the District; (2) set procedures for acquiring, using and disposing of District property; (3) empower the District with design and maintenance of the system; (4) establish wards, the Board of Directors, officers and the right to employ staff; (5) give the District the right of eminent domain; (6) give the power to create ordinances, resolutions and motions; and (7) give the power to tax.

The District is governed by an elected Board of Directors, responsible for providing direction to fulfill the District's role in the community and for establishing policies and objectives, as necessary, to accomplish the District's purposes.

The District's policies and objectives as described in the EBRPD Master Plan are: (1) to provide a diversified land and water system of regional parklands; (2) to acquire and preserve significant examples of the natural and cultural environment; (3) to cooperate with other public agencies in developing non-park, open space lands; (4) to balance environmental concerns with regional recreation opportunities; and (5) to provide appropriate recreational development to foster use and preserve remoteness and natural values; (6) to preserve and manage parklands to retain their scenic, natural, and cultural values; (7) to enhance access and use by special populations; (8) to focus interpretation on the visitors' relationship to nature and on values and process; and (9) The District will be a "good neighbor" and avoid conflict with adjacent property holders.

(See Appendix E for entire quote of Master Plan "Policies and Objectives.")

2. Adopted Park Planning Reports for Plan Area

The Resource Analysis for Las Trampas, Little Hills and the western end of the Las Trampas to Mt. Diablo Regional Trail was accepted in 1991. No previous Land Use-Development Plan for Las Trampas or Little Hills has been prepared. A Trail Corridor Study/Eir for the eastern portion of the Las Trampas to Mt. Diablo Regional Trail was adopted in 1980.

3. Revisions to the Plan

This Plan is intended to serve as the master plan for these parklands for the next 20 years. The Land Use-Development Plan and the EIR can be amended as needed. However, major amendments, that would include substantial changes altering the basic land use designations, roads or resource protection measures created by the Plan, require appropriate California Environmental Quality Act (CEQA) documentation and Board approval.

Suggestions concerning amendments to the Plan should be made to the EBRPD Planning/Stewardship Department. Development or use proposals submitted by outside individuals or groups will follow the District's application permit procedure.

4. Plan Administration and Implementation

This Plan will be implemented under the direction of the General Manager of the East Bay Regional Park District upon adoption by the Board of Directors. The Acquisition Department will be responsible for all acquisitions necessary to implement the Land Use-Development Plan. Capital Improvement Plans and contract documents shall be created by the Design Department. These projects will be administered by Construction Management.

Maintenance of the existing and proposed facilities shall be by the appropriate parkland crews, under the supervision of the Park Supervisor and Unit Managers of the Operations & Interpretation Department. The Park Supervisor is responsible for seeing that maintenance is consistent with the adopted Plan. Any questions regarding this consistency will be discussed with the Planning or Land Stewardship Departments. Maintenance work on grading, drainage, trails, structures, fencing, pond, etc., will be performed under the direction of the appropriate Land District personnel. Any maintenance work involving design or layout changes shall be approved by the Design Department. Reservations shall be through the Reservations branch of the Operations Department and Special Interest Recreation License Agreements and Concession Agreements shall be negotiated and managed by the Revenue branch of the Operations Department. Interpretive programs and operation of the Nature Center shall be performed by the Interpretive branch of the Operations & Interpretation Department.

Implementation of this Plan is expected to proceed in phases, some of which may not be undertaken for many years. This Plan is long-range and funds must be approved by the Board of Directors in its regular annual budget process.

Implementation of the Plan shall be reviewed annually. This Plan is schematic or general in nature. While graphic plans show configuration for facility design and the text indicates the quality of facilities such as the number of parking spaces, these proposals are preliminary although maximum numbers shown will not be

exceeded. The final design and capacities will be determined during the Capital Improvement Plan phase. The Planning, Design and Operations departments will determine the priority of projects (in coordination with the priorities section of this report) at joint meetings. These projects shall include projects by the District concessionaires and outside contractors.

5. Wilderness, Recreation Area and Regional Trail - Purpose, Planning and Management Guidelines

The Land Use-Development Plan directs the future use and development of a parkland based on policies established in the District's 1989 Master Plan.

The following Parkland Classifications shown below describe the purpose, standards, and planning and management guidelines for a Regional Wilderness, Recreation Area, and Trail are from the East Bay Regional Park District's Master Plan 1989.

Regional Wilderness

Purpose

A Regional Wilderness preserves an area of land with natural qualities and isolates visitors from the urban scene in a setting that is undisturbed by the adverse effects of human activities.

Minimum Standards

- To be considered as a Regional Wilderness, an area must have the following characteristics:
- Consist of a minimum of 3,000 acres with a potential for both unrestricted and possibly restricted public access areas which may exceed 10,000 acres.
- Be sufficiently wide at all points to minimize the penetration of noise and to protect the qualities of the Regional Wilderness.
- Be generally undisturbed and natural and without public roads. However, a Regional Wilderness may contain narrow rural roads, which the District may use as trails or for public safety and maintenance, or which the District may abandon if not needed.
- Include a viewshed that does not degrade the values of the Regional Wilderness.
- Have at least one area that is suitable for staging purposes at its edge.

Planning and Management Guidelines: Wilderness Unit

The primary planning and management objective is to allow natural processes and desirable ecological change to take place. The District will protect the Wilderness Unit from the adverse effects of human activities and, when necessary, protect the health and safety of the public in ways that are consistent with wilderness values.

The Wilderness Unit contains significant natural features and acreage in a cohesive area.

Only activities that are compatible with wilderness values are allowed. These activities include hiking, horseback riding, and camping. Improvements within the Wilderness Unit will be limited to horseback riding, hiking, and service trails along natural or suitable existing routes; hike-in and equestrian camps; and boundary fencing and adequate signs for visitor information and safety. The District may establish minimal sanitary facilities and a potable water supply if required.

There will be no public roads, permanent habitations other than a security residence, or general recreation facilities of any kind. Mechanized equipment, other than emergency vehicles and maintenance equipment, will not be permitted in the Wilderness Unit, except as needed for resource management.

Planning and Management Guidelines: Staging Unit

The objective of the Staging Unit is to minimize any adverse effects that could result from the public's use of the Regional Wilderness. Therefore, facilities will be limited to the edge of the Wilderness Unit in an area designated as a Staging Unit.

A Staging Unit contains adequate and appropriate facilities for users of the Regional Wilderness. Facilities might include a parking area, sanitary facilities, a security residence, a service yard, outdoor education or interpretive facilities, camping facilities, and picnic areas. All facilities should be harmonious with the natural surroundings and, if possible, adequately screened from the view of visitors of the Regional Wilderness.

There may be more than one Staging Unit for a Regional Wilderness if there are suitable multiple access points, and if those access points would not compromise the goals and purpose of the Regional Wilderness.

Regional Recreation Area

Purpose

A Regional Recreation Area provides a variety of outdoor recreation experiences on a site that is particularly suited to regionally significant recreational activities.

Minimum Standards

To be considered as a Regional Recreation Area, an area must have the following characteristics:

- Be 100 or more acres of either land or land and water.
- Be capable of being developed for recreational uses that are compatible with any significant environmental features within or adjacent to the Regional Recreation Area.
- Be capable of withstanding intensive public use. (This standard applies to both land and facilities.)
- Have proven recreational resources, either created or natural, that provide recreational opportunities, such as swimming, picnics, fishing, and boating.

Planning and Management Guidelines

A Regional Recreation Area should accommodate a variety of compatible recreation forms. Alterations to the environment and extensive maintenance may be necessary to facilitate intensive public use of the Regional Recreation Area.

Outdoor educational facilities will be provided within a Regional Recreation Area wherever feasible. The District may create such resources as marshes, wildlife habitat areas, and ponds for this purpose.

The District may make such improvements as swimming beaches, small boat marinas, bathhouses, artificial lakes, and playing fields.

If both the size of the Regional Recreation Area and its features are appropriate, the District may designate a Natural Unit within a Regional Recreation Area.

Regional Trail Classification and Purpose

Purpose

A Regional Trail provides a linear corridor, in a natural setting where possible, that is primarily for pedestrian, equestrian, and bicycling uses. Regional Trails provide links between parks, local trails, and urban communities.

Minimum Standards

To be considered as a Regional Trail (internal park trails, or feeder trails, which are not part of the Regional Trail Plan, are excluded), an area must possess the following characteristics:

- Have a potential linear corridor of regional significance that the District can designate as a Trail Link for planning and management purposes. Each Trail Link will be in accordance with the Regional Trails Plan and should accomplish at least one of the following goals:
- Provide nonmotorized access to a shoreline area or to a parkland of regional scale (such as those provided by the District, the East Bay Municipal Utility District, the San Francisco Water Department, the California State Park System, or the National Park Service) for a major population center or mass-transit terminal.
- Provide a connection between parklands of regional scale (as just defined), especially between those that provide overnight camping.
- Provide a day-use loop or link through other regional significant scenic lands - either inland or along shorelines.
- Provide a regional water trail with landing and launching sites as well as amenities that connects regional and public facilities along the San Francisco Bay shoreline and delta for appropriately sized small water craft.
- Have adequate land area available at strategic locations suitable for staging or compatible trail recreation activities. The District will designate these areas as Staging Units for planning and management purposes.

Planning and Management Guidelines: Trail Link

Trail Links will be marked with signs. Where particular types of users will be using the Regional Trail exclusively, the District will clearly designate the Trail Link and use signs or barriers to prevent the intrusion of incompatible activities.

The District will consolidate trail modes for hiking, bicycling, horseback riding, and jogging whenever possible and feasible within the same corridor. While the basic Regional Trail System is oriented to hiking, equestrian, and related uses, the District will add bicycling sections when topography and financing will allow. Bicycling and equestrian paths will be separate wherever possible, although they may share a common corridor.

The Trail Link should be at least wide enough to accommodate the designated users. Where a somewhat wider land feature - such as a canyon, narrow valley, ridge, plateau, or floodplain - intersects the Trail Link, the Trail Link should encompass its entire width, if feasible. This will guarantee protection of the area and provide open space along the Regional Trail.

The District will exclude the use of motorized vehicles, such as motorcycles, mini-bikes, and mopeds, on Regional Trails in order to maintain peace and tranquility for its users.

The District may proceed with acquisition of rights-of-way as opportunities occur to insure future trail development, especially in agricultural areas of Eastern Contra Costa County. However, in recognition of the importance of farming and farm-related activities, the District's policy is:

- In farmland areas only those trails have been included in the Two-County Regional Trail Plan which can be developed primarily on public or quasi-publicly owned rights-of-way (such as flood control or railroad rights-of-way).
- The District will provide signs and patrolling of trails for appropriate security of adjacent farmland property and crops, and may provide fencing.
- In recognition of the importance of security to rangeland property owners, the District will route and design trails to minimize trail-related impact on adjacent rangeland uses. Further, following consultation with adjacent property owners to mitigate impact, the District will provide fencing, signs, and patrolling of trails for appropriate security of adjacent rangeland property.
- In areas of Eastern Contra Costa County with active or potentially active crop production, the development and operation of trails will occur only following consultation with and concurrence of adjacent property owners and mitigation of conflicts.

Planning and Management Guidelines: Staging Unit

- Areas along the Trail Link that will be used for staging purposes are Staging Units. The following guidelines apply within the Staging Unit:
- Staging Units will be located at strategic access points along a Trail Link. If a Staging Unit is situated within another regional parkland, the District will group it with other developed recreational facilities whenever possible, because these generally provide the necessary facilities already.
- The Staging Unit will be developed with facilities that are adequate and appropriate for users of the Trail Link. These facilities may include parking areas, equestrian centers, sanitary facilities, drinking fountains, picnic areas, shelters, and trailhead signs.
- A Staging Unit may contain additional facilities, particularly along a shoreline, that are not primarily oriented toward trail users. These additional facilities may include play fields, fishing areas, or landscaped areas - as long as they do not conflict with the primary purpose of the Staging Unit or with conservation of the environment.

- The Staging Unit provides for the needs of the trail users and serves as an entry point to the Regional Trail System. Moreover, within urban areas and along the bay shoreline, portions of Staging Units can provide relief from the urban scene by offering an area of natural quality.
- Rest areas will be provided, both between Staging Units where there are aesthetic qualities or viewpoints and at the end of long uphill stretches. The District may acquire additional space for this purpose. These areas may provide trail maps, drinking fountains, hitching rails, or bicycle racks.

The EBRPD Master Plan 1988 includes policies on resources, recreation and education, operations and other aspects of planning including land acquisition. Please refer to that document for other specific policies.

APPENDIX C

REPORT PREPARATION

East Bay Regional Park District Project Management Staff:

Pat O'Brien
General Manager

Thomas H. Mikkelsen
Assistant General Manager
Planning, Stewardship, Design and Construction

Maxine Turner
Chief, Planning and Stewardship

The LUDP was prepared by EBRPD Planning/Stewardship staff including Project Manager Karen Parsons, Landscape Architect; and Kelly Tovey, Planning Technician. Land Stewards led by Ken Burger, Stewardship Manager, prepared the Natural Resources Management Plan. These include Ray Budzinski, Range Management Specialist; Nancy Brownfield, Integrated Pest Management Specialist; Laurel Collins, Geologist; Joe DiDonato, Wildlife Specialist and John Nicoles, Land Management Specialist. Sarah Marvin, Planning Technician prepared the report maps on the District's Arc Info GIS system. Secretaries Linda Faria and Gerry Cosby assisted with report production.

The plan received substantial input from the following staff members: Operations Department: Jerry Kent, Steve Jones, Ron Russo, Mel Thompson, Tony Smith, Rachel McDonald, Jim Wolf, Maryanne Canapero, Richard Clinnick and Steve Edwards; Land Acquisition: Bob Doyle, Lloyd Wagstaff, Steve Fiala and Bob Bouska; Design: Mike Anderson and Ed Chu; Public Safety: Joe Rubini, Herb Fassler and Steve Krull; Controllers: Patti Henry, and Personnel: Dave Clovis. The help of these and other staff members is hereby gratefully acknowledged.

The EIR was prepared by EA Engineering, Science and Technology of Lafayette: Sia Morhardt, Ph.D, Project Director; Susan Hootkins, M.U.P., Project Manager; Bruce DiGennaro; Tom Burke, M.S., P.E.; Edward Fondick, Ph.D; Martha Goodavish and Sandra Davidson, R.P.F. The traffic section of the EIR was prepared by Fehr and Peers Associates, Inc. of Lafayette: Stephen Gordon, M.S. and Julie Sasaki. A geotechnical report was prepared by Robert H. Wright, Ph.D of Harlan Tait Associates of San Francisco.



APPENDIX D

Summary of Las Trampas Regional Wilderness Interview Survey Results

Table D-1

AVERAGE WEEKEND PARKING OCCUPANCY AT
LAS TRAMPAS REGIONAL WILDERNESS¹

<u>Time</u>	<u>No. of Occupied Spaces ²</u>	
	<u>Saturday</u>	<u>Sunday</u>
11:00 am - 12:00 pm	18	13
12:00 pm - 1:00 pm	20	17
1:00 pm - 2:00 pm	26	20
2:00 pm - 3:00 pm	23	20

¹ Based on parking lot count conducted Saturday, April 25, 1992 and Sunday, April 26, 1992

² Includes vehicles parked in lot & on street. The parking lot (which is not striped) has a 35-40 vehicle capacity. The maximum parking lot demand was 26 vehicles.

Table D-2

**MODE OF TRAVEL TO THE LAS TRAMPAS
REGIONAL WILDERNESS**

<u>Mode</u>	<u>Saturday</u>		<u>Sunday</u>		<u>Average</u>	
	<u>No. of Responses</u>	<u>% of Total</u>	<u>No. of Responses</u>	<u>% of Total</u>	<u>No. of Responses</u>	<u>% of Total</u>
A) Horse ¹	8	15%	8	18%	8	16%
B) Car	38	70%	35	76%	37	73%
C) Bicycle	1	2%	1	2%	1	2%
D) Walk	2	4%	0	0%	1	2%
E) Car with Horse Trailer	0	0%	1	2%	1	2%
F) Group Horse Ride	<u>5</u>	<u>9%</u>	<u>1</u>	<u>2%</u>	<u>3</u>	<u>5%</u>
Total:	54	100%	46	100%	51	100%

¹ This category includes all people riding horses who either board their horse at the Las Trampas stables or who brought their horses to the Little Hills Regional Recreation area for an overnight camping trip.

Table D-3

AVERAGE VEHICLE OCCUPANCY¹

Time	Saturday					Sunday				
	No. of Cars with the Following Vehicle Occupancy					No. of Cars with the Following Vehicle Occupancy				
	1 Person Car	2-3 People Car	4-5 People Car	6+ People Car	Total Vehicles	1 Person Car	2-3 People Car	4-5 People Car	6+ People Car	Total Vehicles
11 - 12	4	3	0	0	7	2	3	3	0	8
12 - 1	2	9	1	0	12	2	6	1	0	9
1 - 2	2	5	1	0	8	3	4	1	0	8
2 - 3	<u>1</u>	<u>7</u>	<u>2</u>	<u>1</u>	<u>11</u>	<u>2</u>	<u>7</u>	<u>1</u>	<u>0</u>	<u>10</u>
Total	9	24	4	1	38	9	20	6	0	35
Percent of Total	24%	63%	11%	2%	100%	26%	57%	17%	0%	100%

¹ 6 of the 38 vehicles arriving at Las Trampas on Saturday were part of a larger group. The 6 vehicles were part of three larger 2-vehicle groups. Two of the 35 vehicles arriving at Las Trampas on Sunday were part of a larger group.

Table D-4
AVERAGE DURATION OF PARK VISIT¹

	<u>Total No. of Responses in the Following Time Intervals:</u>					<u>Total Responses</u>
	<u>0-1 Hrs.</u>	<u>1-2Hrs.</u>	<u>2-3Hrs.</u>	<u>3-4 Hrs.</u>	<u>4+ Hrs.</u>	
Saturday 4/25/92	10	10	13	7	9	49
Sunday 4/26/92	7	13	10	4	7	41
Average	9	12	12	6	8	47
Percentage of Total ²	19%	26%	26%	12%	17%	100%

¹ Based on all survey responses

² Based on the average values for Saturday & Sunday

Table D-5

LOCATION OF PARK USER'S RESIDENCE¹

	<u>Danville</u>	<u>San Ramon</u>	<u>North of Danville (Walnut Creek, Moraga, Alamo)</u>	<u>South of Danville (Dublin, Pleasanton, Fremont)</u>	<u>Castro Valley, Hayward Berkeley, Oakland</u>	<u>Marin S.F., Peninsula</u>	<u>Sacramento, Modesto, Tracy</u>	<u>Total No. of People Surveyed</u>
Saturday 4/25/92	7	24	5	26	11	2	0	75
Sunday 4/26/92	<u>13</u>	<u>20</u>	<u>12</u>	<u>8</u>	<u>20</u>	<u>0</u>	<u>4</u>	<u>77</u>
Average	10	22	9	17	16	1	2	76
Average Percentage of Total ²	13%	29%	12%	22%	21%	1%	2%	100%

¹ All persons in each group were invited to respond to this question, except persons participating in the commercial horseback riding trips.

² Based on the average values for Saturday & Sunday

Table D-6
FREQUENCY OF PARK VISITS

	No. of people who are visiting the <u>park for the first time</u>	No. of people who <u>visit weekly</u>	No. of people who <u>visit monthly</u>	No. of people who <u>visit yearly</u>	Total No. of people <u>surveyed</u>
Saturday 4/25/92	11	15	7	15	48
Sunday 4/26/92	10	8	11	11	40
Average	10	12	9	13	44
Percentage of Total ¹	23%	27%	20%	30%	100%

¹

Based on the average values for Saturday & Sunday

Table D-7

**SUMMARY OF USER ACTIVITY AT THE LAS TRAMPAS
REGIONAL WILDERNESS**

	<u>No. of Groups Who Planned the Following Activities</u>					
	<u>Hiking</u>	<u>Horseback Riding</u>	<u>Bicycle Riding</u>	<u>Picnicking</u>	<u>Other</u>	<u>Total</u>
Saturday 4/25/92	34	9	2	9	2	56
Sunday 4/26/92	31	8	0	7	2	48
Average	32	9	1	8	2	52
Percentage of Total ¹	62%	17%	2%	15%	4%	100%

¹ Based on the average values for Saturday & Sunday

Table D-8

NUMBER OF PARK USERS WHO WOULD ACCESS THE PARK
FROM THE DANVILLE/ALAMO AREA¹

	<u>No. of People Responding who would:</u>		
	<u>Continue to use the Existing (Bolinger Canyon) Entrance</u>	<u>Prefer to use an Entrance in the Danville/Alamo area</u>	<u>Total Responses</u>
Saturday	58	15	73
Sunday	43	29	72
Average	51	22	73
Percentage of Total ²	70%	30%	100%

¹ All about members of each group were invited to respond to this question

² Based on the average values for Saturday & Sunday

Table D-9

RESPONSE TO SURVEY QUESTION #6:
 "WHAT ATTRACTED YOU TO THIS PARK?"¹

	<u>No. of Responses</u>	<u>Percentage of Total Responses</u>
Hiking Trails	22	26%
Convenient/ Close to Home	15	18%
Access for Horses	13	15%
Beauty/Tranquillity	25	29%
Access for Dogs	3	3%
Isolation/Wilderness	<u>8</u>	<u>9%</u>
Total:	86	100%

¹ Some people provided several answers to question #6. All answers are summarized above. Approximately 67 persons (31 on Saturday, 36 on Sunday) responded to the question.

Questions to be completed before each interview

- i. Time of Arrival: _____
- ii. Mode of Travel for Each Group:
- a) ☐ Horse c) ☐ Bicycle e) ☐ Car with Horse trailer
b) ☐ Car d) ☐ Walk f) ☐ Other _____
- iii. Number of people per vehicle or number of people in non-vehicle group _____
Part of a larger group? _____
- iv. Number of vehicles in parking lot ____ Number of vehicles parked on road ____

**Las Trampas Regional Park Interview Survey
for the Proposed New Staging Areas
Saturday April 25th and Sunday April 26th**

Hi, I'm with the East Bay Regional Park District. We want to improve parking and access to Las Trampas. I would like to ask you a few brief questions to help us out:

- 1) How many hours do you plan to stay in the park? _____
a) ☐ 0-1 hours
b) ☐ 1-2 hours
c) ☐ 2-3 hours
d) ☐ 3-4 hours
e) ☐ 4+ hours
- 2) In what city(s) do you live? Driver _____ Companion #1 _____
Companion #2 _____ Companion #3 _____
- 3) How often do you visit the park?
a) ☐ One time visit
b) ☐ _____ number of days per week
c) ☐ _____ number of days per month
d) ☐ _____ number of days per year
e) ☐ Comments _____
- 4) What activities do you plan here today?
a) ☐ Hike/Walk
b) ☐ Ride horses (private group or from stables?)
c) ☐ Ride bicycles
d) ☐ Picnic/Play/Read/Relax
e) ☐ Other _____
- 5) If the park opened a second entrance near Danville or Alamo, which entrance would you use?
- | | <u>Driver or Group Rep.</u> | <u>Companion #1</u> | <u>Companion #2</u> | <u>Companion #3</u> |
|-------------------------|-----------------------------|--------------------------|--------------------------|--------------------------|
| a) Existing (Bollinger) | ☐ | ☐ | ☐ | ☐ |
| b) New (Danville/Alamo) | ☐ | ☐ | ☐ | ☐ |
- 6) What attracted you to this park? (optional) _____

Thank you very much!

APPENDIX E

Two-Way 24-Hour Traffic Counts at Hemme & Camille Avenue in Alamo

24 HOUR SURVEY RESULT SUMMARY

CLIENT: FEHR & PEERS ASSOCIATES
 PROJECT: DANVILLE
 LOCATION: HEMME AVE.
 WEST OF IRON HORSE TRAIL

DIRECTION: EASTBOUND							DIRECTION: EASTBOUND						
DATE	TIME	15	30	45	60	HOUR TOTALS	DATE	TIME	15	30	45	60	HOUR TOTALS
2-29-92	0000	2	4	3	5	14	3-01-92	0000	5	8	2	2	17
	0100	2	1	1	1	5		0100	0	0	0	4	4
	0200	1	0	0	0	1		0200	0	0	1	1	2
	0300	2	1	0	1	4		0300	0	0	0	0	0
	0400	1	0	0	1	2		0400	2	1	1	1	5
	0500	2	3	1	0	6		0500	2	1	1	2	6
	0600	0	0	1	1	2		0600	0	0	0	3	3
	0700	6	1	3	1	11		0700	3	2	6	3	14
	0800	3	2	5	7	17		0800	4	8	5	9	26
	0900	1	11	7	17	36		0900	13	7	6	11	37
	1000	16	9	17	26	68		1000	13	8	15	27	63
	1100	17	13	13	9	52		1100	11	19	14	15	59
	1200	23	15	14	20	72		1200	12	23	17	25	77
	1300	19	14	19	15	67		1300	21	16	11	23	71
	1400	13	14	24	21	72		1400	17	11	23	17	68
	1500	21	16	15	12	64		1500	20	11	15	25	71
	1600	22	16	15	15	68		1600	13	22	19	21	75
	1700	19	15	12	13	59		1700	17	12	13	16	58
	1800	16	3	16	13	48		1800	16	12	7	12	47
	1900	8	10	15	10	43		1900	8	7	6	8	29
	2000	5	6	3	9	23		2000	8	10	10	6	34
	2100	5	10	3	5	23		2100	8	3	1	1	13
	2200	6	5	4	2	17		2200	1	4	1	4	10
	2300	9	13	8	4	34		2300	6	6	4	7	23
TOTAL						808	TOTAL						812

SURVEY STATISTICS

24 HOUR SUMMARY RESULTS 1620

PEAK HOUR SUMMARIES

2-29-92	AM PEAK HOUR	10:30-11:30	VOLUMES	73
	PM PEAK HOUR	14:30-15:30	VOLUMES	87
3-01-92	AM PEAK HOUR	10:30-11:30	VOLUMES	72
	PM PEAK HOUR	12:15-01:15	VOLUMES	86

1 HOUR SURVEY RESULT SUMMARY

CLIENT: FEER & PEERS ASSOCIATES
 PROJECT: DANVILLE
 LOCATION: HEMME AVE.
 WEST OF IRON HORSE TRAIL

DIRECTION: EASTBOUND							DIRECTION: EASTBOUND						
DATE	TIME	15	30	45	60	HOUR TOTALS	DATE	TIME	15	30	45	60	HOUR TOTALS
3-02-92	0000	0	1	2	0	3	3-03-92	0000	1	2	2	0	5
	0100	2	1	0	0	3		0100	0	0	0	0	0
	0200	0	2	0	2	4		0200	1	0	0	0	1
	0300	1	2	1	2	6		0300	0	2	0	0	2
	0400	0	1	2	0	3		0400	0	1	2	0	3
	0500	1	2	1	3	7		0500	0	2	2	5	9
	0600	3	4	2	3	12		0600	2	2	3	3	10
	0700	7	17	12	16	52		0700	3	18	15	21	57
	0800	64	133	59	47	303		0800	77	86	23	9	195
	0900	37	37	9	8	91		0900	35	25	11	10	81
	1000	13	12	14	12	51		1000	8	7	9	11	35
	1100	16	12	33	28	89		1100	18	18	31	37	104
	1200	14	20	12	16	62		1200	11	16	25	17	69
	1300	14	8	28	41	91		1300	15	15	21	44	95
	1400	19	15	37	73	144		1400	24	24	42	31	121
	1500	52	22	19	26	119		1500	84	28	15	16	143
	1600	14	17	28	31	90		1600	15	24	27	17	83
	1700	20	29	22	21	92		1700	14	32	35	29	110
	1800	25	28	27	38	118		1800	23	20	21	25	89
	1900	11	17	12	12	52		1900	18	33	16	12	79
	2000	9	3	5	10	27		2000	10	6	9	10	35
	2100	7	11	1	8	27		2100	12	5	6	13	36
	2200	3	7	3	2	15		2200	7	4	3	2	16
	2300	1	0	0	1	2		2300	0	3	1	0	4
TOTAL						1463	TOTAL						1382

SURVEY STATISTICS

24 HOUR SUMMARY RESULTS 2845

PEAK HOUR SUMMARIES

3-02-92	AM PEAK HOUR	08:00-09:00	VOLUMES	303
	PM PEAK HOUR	14:30-15:30	VOLUMES	184
3-03-92	AM PEAK HOUR	07:45-08:45	VOLUMES	207
	PM PEAK HOUR	14:30-15:30	VOLUMES	185

24 HOUR SURVEY RESULT SUMMARY

CLIENT: PEHR & PEERS ASSOCIATES
 PROJECT: DANVILLE
 LOCATION: HEMME AVE.
 WEST OF IRON HORSE TRAIL

DIRECTION: WESTBOUND							DIRECTION: WESTBOUND						
DATE	TIME	15	30	45	60	HOUR TOTALS	DATE	TIME	15	30	45	60	HOUR TOTALS
2-29-92	0000	2	2	5	4	13	3-01-92	0000	5	6	4	2	17
	0100	2	1	1	1	5		0100	0	0	0	4	4
	0200	0	0	0	0	0		0200	0	0	1	1	2
	0300	1	2	0	1	4		0300	0	0	0	0	0
	0400	1	0	0	1	2		0400	1	0	1	1	3
	0500	2	1	1	1	5		0500	0	2	1	3	6
	0600	0	1	1	1	3		0600	0	0	0	2	2
	0700	3	1	5	2	11		0700	4	1	5	2	12
	0800	8	2	5	10	25		0800	2	11	9	11	33
	0900	7	12	7	18	44		0900	12	8	6	10	36
	1000	16	9	16	27	68		1000	15	7	21	22	65
	1100	17	17	18	16	68		1100	14	18	14	17	63
	1200	25	18	16	19	78		1200	15	25	23	32	95
	1300	20	19	21	15	75		1300	24	19	16	27	86
	1400	16	19	27	21	83		1400	20	12	34	19	85
	1500	22	19	18	13	72		1500	23	14	23	32	92
	1600	26	17	16	15	74		1600	16	26	20	22	84
	1700	18	16	11	15	60		1700	24	19	19	16	78
	1800	16	3	17	15	51		1800	12	13	9	16	50
	1900	13	11	13	10	47		1900	7	8	7	12	34
	2000	5	8	4	8	25		2000	7	9	9	6	31
	2100	5	10	5	6	26		2100	9	3	1	1	14
	2200	6	6	4	2	18		2200	3	5	3	3	14
	2300	12	11	7	4	34		2300	7	5	4	9	25
						TOTAL							TOTAL
						891							931

SURVEY STATISTICS

24 HOUR SUMMARY RESULTS 1822

PEAK HOUR SUMMARIES

2-29-92	AM PEAK HOUR	10:45-11:45	VOLUMES	79
	PM PEAK HOUR	14:15-15:15	VOLUMES	89
3-01-92	AM PEAK HOUR	10:30-11:30	VOLUMES	75
	PM PEAK HOUR	12:15-01:15	VOLUMES	104

24 HOUR SURVEY RESULT SUMMARY

CLIENT: FEHR & PEERS ASSOCIATES
 PROJECT: DANVILLE
 LOCATION: HEMME AVE.
 WEST OF IRON HORSE TRAIL

DIRECTION: WESTBOUND							DIRECTION: WESTBOUND						
DATE	TIME	15	30	45	60	HOURL TOTALS	DATE	TIME	15	30	45	60	HOURL TOTALS
3-02-92	0000	0	4	3	0	7	3-03-92	0000	2	2	2	0	6
	0100	2	2	0	0	4		0100	0	0	0	0	0
	0200	0	2	0	2	4		0200	1	0	0	0	1
	0300	1	1	1	2	5		0300	0	2	2	0	4
	0400	0	1	3	0	4		0400	0	1	0	0	1
	0500	1	2	2	3	8		0500	0	1	3	5	9
	0600	2	3	3	4	12		0600	2	1	1	4	8
	0700	6	14	11	18	49		0700	2	14	14	23	53
	0800	58	165	38	9	270		0800	77	140	29	9	255
	0900	36	45	7	7	95		0900	34	37	9	10	90
	1000	13	11	13	13	50		1000	8	7	9	10	34
	1100	18	9	37	29	93		1100	18	17	28	35	98
	1200	17	22	15	14	68		1200	11	15	23	17	66
	1300	14	7	25	48	94		1300	14	13	19	44	90
	1400	24	13	38	87	162		1400	31	23	39	66	159
	1500	132	30	20	19	201		1500	132	33	16	14	195
	1600	21	17	25	32	95		1600	20	21	27	18	86
	1700	17	26	21	24	88		1700	15	33	30	29	107
	1800	24	25	26	41	116		1800	24	18	19	22	83
	1900	11	16	11	10	48		1900	13	27	15	11	66
	2000	14	2	5	9	30		2000	7	5	8	8	28
	2100	5	10	1	7	23		2100	15	6	7	12	40
	2200	4	5	3	2	14		2200	6	3	3	2	14
	2300	1	0	0	1	2		2300	1	1	2	0	4
						-----							-----
						TOTAL							TOTAL
						1542							1497

SURVEY STATISTICS

24 HOUR SUMMARY RESULTS 3039

PEAK HOUR SUMMARIES

3-02-92	AM PEAK HOUR	0745-0845	VOLUMES	279
	PM PEAK HOUR	1430-1530	VOLUMES	277
3-03-92	AM PEAK HOUR	0745-0845	VOLUMES	269
	PM PEAK HOUR	1430-1530	VOLUMES	270

24 HOUR SURVEY RESULT SUMMARY

CLIENT: FEHR & PEERS ASSOCIATES
 PROJECT: DANVILLE
 LOCATION: CAMILE
 WEST OF IRON HORSE TRAIL

DIRECTION: EASTBOUND							DIRECTION: EASTBOUND						
DATE	TIME	15	30	45	60	HOUR TOTALS	DATE	TIME	15	30	45	60	HOUR TOTALS
2-29-92	0000	3	3	5	0	11	3-01-92	0000	4	1	0	0	5
	0100	1	1	0	4	6		0100	0	1	1	0	2
	0200	0	0	2	3	5		0200	1	0	3	0	4
	0300	1	0	0	1	2		0300	0	1	0	0	1
	0400	1	0	1	2	4		0400	1	0	1	1	3
	0500	2	0	1	1	4		0500	0	0	0	0	0
	0600	1	1	1	2	5		0600	0	0	0	7	7
	0700	3	9	9	4	25		0700	5	12	5	4	26
	0800	10	13	9	21	53		0800	5	7	9	28	49
	0900	10	12	23	13	58		0900	16	15	15	5	51
	1000	16	21	19	11	67		1000	12	20	11	16	59
	1100	14	17	14	9	54		1100	4	4	8	5	21
	1200	15	13	22	24	74		1200	20	9	22	18	69
	1300	13	19	16	8	56		1300	12	26	11	19	68
	1400	17	17	19	13	66		1400	9	19	14	8	50
	1500	5	17	5	9	36		1500	11	16	19	5	51
	1600	15	13	18	14	60		1600	18	15	9	11	53
	1700	14	16	13	15	58		1700	19	16	12	16	63
	1800	15	13	6	12	46		1800	3	4	1	7	15
	1900	3	6	4	6	19		1900	16	4	5	3	28
	2000	2	6	1	2	11		2000	4	4	0	5	13
	2100	3	1	1	4	9		2100	11	5	4	1	21
	2200	1	1	4	2	8		2200	8	1	0	0	9
	2300	0	2	2	2	6		2300	4	4	0	1	9
						TOTAL							TOTAL
						743							677

SURVEY STATISTICS

24 HOUR SUMMARY RESULTS 1420

PEAK HOUR SUMMARIES

2-29-92	AM PEAK HOUR	1100-1200	VOLUMES	54
	PM PEAK HOUR	1530-1630	VOLUMES	42
3-01-92	AM PEAK HOUR	0845-0945	VOLUMES	74
	PM PEAK HOUR	1230-0130	VOLUMES	78

1 HOUR SURVEY RESULT SUMMARY

CLIENT: PEHR & PEERS ASSOCIATES
 PROJECT: DANVILLE
 LOCATION: CAMILLE
 WEST OF IRON HORSE TRAIL

DIRECTION: EASTBOUND							DIRECTION: EASTBOUND						
DATE	TIME	15	30	45	60	HOURL TOTALS	DATE	TIME	15	30	45	60	HOURL TOTALS
02-92	0000	0	0	1	0	1	3-03-92	0000	0	2	0	1	3
	0100	1	0	0	0	1		0100	0	0	0	0	0
	0200	1	0	2	1	4		0200	0	3	0	2	5
	0300	1	0	0	0	1		0300	1	1	0	1	3
	0400	0	1	0	0	1		0400	0	3	0	1	4
	0500	1	5	3	5	14		0500	2	2	6	6	16
	0600	2	1	5	8	16		0600	7	7	12	8	34
	0700	26	18	17	26	87		0700	20	21	19	25	85
	0800	22	20	19	17	78		0800	34	18	12	18	82
	0900	13	12	11	10	46		0900	20	25	13	18	76
	1000	16	10	6	8	40		1000	16	12	7	13	48
	1100	7	14	15	15	51		1100	10	21	13	14	58
	1200	15	27	11	16	69		1200	13	19	23	11	66
	1300	12	13	15	16	56		1300	10	16	13	9	48
	1400	12	8	16	18	54		1400	18	8	15	16	57
	1500	19	17	15	17	68		1500	32	17	19	20	88
	1600	13	18	23	13	67		1600	16	16	8	20	60
	1700	15	21	18	18	72		1700	20	17	24	16	77
	1800	22	19	15	21	77		1800	20	23	18	14	75
	1900	14	12	11	6	43		1900	15	12	8	8	43
	2000	6	2	3	2	13		2000	7	7	4	4	22
	2100	4	5	3	6	18		2100	6	6	4	3	19
	2200	5	1	2	2	10		2200	6	1	4	1	12
	2300	1	1	0	0	2		2300	1	0	0	1	2
TOTAL						889	TOTAL						983

SURVEY STATISTICS

1 HOUR SUMMARY RESULTS 1872

1 HOUR SUMMARIES

02-92	AM PEAK HOUR	0700-0800	VOLUMES	87
	PM PEAK HOUR	1715-1815	VOLUMES	79
03-92	AM PEAK HOUR	0715-0815	VOLUMES	99
	PM PEAK HOUR	1500-1600	VOLUMES	88

V-32

24 HOUR SURVEY RESULT SUMMARY

CLIENT: FEHR & PEERS ASSOCIATES
 PROJECT: DANVILLE
 LOCATION: CAMILE
 WEST OF IRON HORSE TRAIL

DIRECTION: WESTBOUND							DIRECTION: WESTBOUND						
DATE	TIME	15	30	45	60	HOUR TOTALS	DATE	TIME	15	30	45	60	HOUR TOTALS
2-29-92	0000	1	7	4	3	15	3-01-92	0000	3	3	3	2	11
	0100	7	1	0	2	10		0100	2	0	1	0	3
	0200	0	1	0	2	3		0200	2	3	0	1	6
	0300	1	0	0	1	2		0300	1	0	0	0	1
	0400	1	0	0	1	2		0400	2	0	0	0	2
	0500	0	0	0	0	0		0500	0	0	0	0	0
	0600	2	0	0	0	2		0600	0	0	1	0	1
	0700	2	0	5	2	9		0700	1	1	6	2	10
	0800	5	5	3	6	19		0800	3	7	4	1	15
	0900	14	11	8	15	48		0900	6	5	3	8	22
	1000	6	14	9	19	48		1000	13	13	12	8	46
	1100	10	23	17	20	70		1100	15	13	16	14	58
	1200	17	14	14	13	58		1200	18	16	15	16	65
	1300	14	13	19	21	67		1300	14	14	14	14	56
	1400	16	19	15	15	65		1400	23	14	15	20	72
	1500	18	16	20	14	68		1500	21	23	19	18	81
	1600	22	24	17	16	79		1600	14	20	14	31	79
	1700	18	14	12	15	59		1700	24	12	14	11	61
	1800	14	9	19	16	58		1800	14	15	20	16	65
	1900	6	5	5	5	21		1900	11	5	5	14	35
	2000	7	5	12	5	29		2000	5	6	5	3	19
	2100	5	6	3	3	17		2100	3	3	6	5	17
	2200	3	10	5	1	19		2200	2	0	1	1	4
	2300	3	5	1	5	14		2300	1	4	3	5	13
TOTAL						782	TOTAL						742

SURVEY STATISTICS

24 HOUR SUMMARY RESULTS 1524

PEAK HOUR SUMMARIES

2-29-92	AM PEAK HOUR	11:00-12:00	VOLUMES	70
	PM PEAK HOUR	15:30-16:30	VOLUMES	80
3-1-92	AM PEAK HOUR	11:00-12:00	VOLUMES	58
	PM PEAK HOUR	16:15-17:15	VOLUMES	89

24 HOUR SURVEY RESULT SUMMARY

CLIENT: PEHR & PEERS ASSOCIATES
 PROJECT: DANVILLE
 LOCATION: CAMILLE
 WEST OF IRON HORSE TRAIL

DIRECTION: WESTBOUND							DIRECTION: WESTBOUND						
DATE	TIME	15	30	45	60	HOUR TOTALS	DATE	TIME	15	30	45	60	HOUR TOTALS
3-02-92	0000	0	1	0	0	1	3-03-92	0000	0	1	0	0	1
	0100	0	0	0	0	0		0100	0	0	0	0	0
	0200	1	0	0	1	2		0200	0	1	0	0	1
	0300	1	0	0	0	1		0300	0	1	0	1	2
	0400	0	0	0	0	0		0400	0	0	0	2	2
	0500	0	1	1	1	3		0500	0	0	0	3	3
	0600	3	3	5	6	17		0600	3	5	3	5	16
	0700	7	9	14	18	48		0700	11	14	11	19	55
	0800	21	14	9	13	57		0800	10	11	12	12	45
	0900	9	16	12	5	42		0900	6	9	7	13	35
	1000	5	13	9	14	41		1000	9	9	8	7	33
	1100	5	7	17	14	43		1100	10	9	11	9	39
	1200	16	15	15	13	59		1200	17	16	23	16	72
	1300	15	12	14	11	52		1300	23	12	14	15	64
	1400	17	13	12	10	52		1400	12	10	14	20	56
	1500	25	23	16	11	75		1500	31	24	23	10	88
	1600	14	23	22	22	81		1600	20	16	14	22	72
	1700	25	28	18	18	89		1700	28	29	29	23	109
	1800	18	14	10	20	62		1800	22	24	18	7	71
	1900	5	14	13	18	50		1900	14	6	13	15	48
	2000	11	6	5	6	28		2000	14	5	7	11	37
	2100	6	12	7	9	34		2100	8	8	5	4	25
	2200	5	1	4	0	10		2200	14	6	1	1	22
	2300	0	1	0	0	1		2300	1	0	0	2	3
						-----							-----
						TOTAL							TOTAL
						848							899

SURVEY STATISTICS

24 HOUR SUMMARY RESULTS 1747

PEAK HOUR SUMMARIES

3-02-92	AM PEAK HOUR	11:00-12:00	VOLUMES	43
	PM PEAK HOUR	15:30-16:30	VOLUMES	64
3-03-92	AM PEAK HOUR	11:00-12:00	VOLUMES	39
	PM PEAK HOUR	16:15-17:15	VOLUMES	80

APPENDIX F

LAS TRAMPAS STABLES Projected Income Analysis for Operational Alternatives

Assumptions

- Desired minimum profit of 6% (in addition to \$20,000 salary and free home rental.
 - One Guide Horse for every 5 rentals
 - Increase barn rent to \$240 effective 4/1/92
 - 5% concession fee plus 4% maintenance fee
 - Remove business decision on how to finance operations by eliminating interest expense.
Cost will vary by concessionaire.
 - New rental agreement should reduce bad debt from \$10,000 to \$1,000.
 - Debt to District will be paid off before plan is implemented
 - Income lost from lame rentals would be offset by lesson income. (All lesson income would be profit, since guide horse costs are allocated through rentals).
 - No pasture boarding
 - Full occupancy
- a. 40 boarding, 49 trail ride and guide horses (89 total)

	<u>Projected Income</u>	<u>Boarding Income</u>	<u>Rental Income</u>
Income	\$237,000.00	\$115,000.00	122,000.00
Operating Costs	(201,000.00)	(84,000.00)	(117,000.00)
Concession/Maintenance Fee	(\$21,000.00)	(11,000.00)	(10,000.00)
Net Income	\$15,000.00	\$20,000.00	(\$5,000.00)
Percent of Profit	6.33%		

- b. 45 boarding, 40 trail ride and guide horse (85 total)

	<u>Projected Income</u>	<u>Boarding Income</u>	<u>Rental Income</u>
Income	\$234,000.00	\$130,000.00	\$104,000.00
Operating Costs	(193,000.00)	(89,000.00)	(104,000.00)
Concession/Maintenance Fee	(21,000.00)	(11,000.00)	(10,000.00)
Net Income	\$20,000.00	\$30,000.00	(\$10,000.00)
Percent of Profit	8.55%		

2. Covered Boarding and Trail Ride Horses at Holly Court

Assumptions

- Desired minimum profit of 6%
- One Guide Horse for every 5 rentals
- Increase barn rent to \$240 effective 4/1/92
- 5% concession fee plus 4% maintenance fee
- Add 20 covered stalls to west side of road (totalling 60 stalls)
- 100 horse maximum @ 100% occupancy
- Income lost from lame rentals or rain would be offset by lesson income
- 40 horses off-site in winter on rented land (\$50 mo. per horse) at Holly Court
- Does not include potential rental income during winter season when weather would permit horses rental

a. 60 boarding, 35 rental, 5 guides

	<u>Projected Income</u>	<u>Boarding Income</u>	<u>Rental Income</u>
Income	\$264,000.00	\$173,000.00	\$91,000.00
Operating Costs	(211,000.00)	(108,000.00)	(103,000.00)
Concession/Maintenance Fee	(24,000.00)	(12,000.00)	(12,000.00)
Net Income	\$29,000.00	\$53,000.00	(\$24,000.00)
Percent of Profit	10.98%		

See the LUDP, Section III.E.b for complete plan.

b. 50 boarding, 42 rental, 8 guides

	<u>Projected Income</u>	<u>Boarding Income</u>	<u>Rental Income</u>
Income	\$256,000.00	\$145,000.00	\$111,000.00
Operating Costs	(214,000.00)	(97,000.00)	(117,000.00)
Concession/Maintenance Fee	(24,000.00)	(12,000.00)	(12,000.00)
Net Income	\$18,000.00	\$36,000.00	(\$18,000.00)
Percent of Profit	7.03%		

c. 48 boarding, 44 rental, 9 guides

	Projected Income	Boarding Income	Rental Income
Income	\$256,000.00	\$139,000.00	\$117,000.00
Operating Costs	(217,000.00)	(95,000.00)	(122,000.00)
Concession/Maintenance Fee	(24,000.00)	(12,000.00)	(12,000.00)
Net Income	\$15,000.00	\$32,000.00	(\$17,000.00)
Percent of Profit	5.86%		

See the LUDP, Section IIIE.3b for complete plan.

APPENDIX G

LAS TRAMPAS TO MT. DIABLO REGIONAL TRAIL CORRIDOR STUDY AREA (Highway I-680 to Las Trampas)

STREET EVALUATION - Opportunities and Constraints for a regional hiking/riding trail

Las Trampas Road/Lark Lane/South Avenue Entrance

Opportunities

- Existing hiking/riding easement on Lark Lane between Las Trampas Road and South Avenue into the Park (with service access ending at the ten-foot wide corridor between Lark Lane and South Avenue)
- Cul-de-sac turnaround at end of South Avenue
- Limited on-street parking possible at western end of trail (South Avenue)
- Crosswalk across Danville Boulevard
- Trailhead at end of South Avenue
- Total route is within public right-of-way

Constraints

- No off-street parking/staging opportunities at end of public road
- Long, indirect route from Magee Park
- On-road route jogs and back-tracks making it more difficult for trail users to understand
- Existing roadway width of Las Trampas Road varies
- There are no public sidewalks
- Private gate across Lark Lane
- There is no vehicular access between Lark Lane and South Avenue
- There are unimproved, roadside drainage areas that are wet in winter
- There is no service road/bicycle potential into Park from the end of the public road
- No parking lot or staging area opportunities at end of road
- Route passes more than ten homes on each side (including landscaping in public right-of-way, driveways)

LaSerena/South Avenue Entrance (via Holiday Drive)

Opportunities

- Existing hiking and riding trail head at end of paved road
- Cul-de-sac turnaround at end of South Avenue

- On-street parking possible at western end of trail (South Avenue)
- Total route is within public right-of-way

Constraints

- No parking lot or staging area opportunities at end of road
- Long, indirect route from Magee Park
- On-road route has several jogs making it more difficult for trail users to understand
- No potential for service or bicycle trail
- There are no public sidewalks
- No crosswalks at Danville Blvd.
- Route passes more than ten homes on each side (including landscaping in public right-of-way, driveways)

Hemme Avenue

Opportunities

- Rancho Romero School has existing parking lot for 30± automobiles
- Second most direct route between Magee and Las Trampas Park
- West of paved road, there is a trail into the Park with good gradient and topography that has been historically used as an unofficial entry into the park by equestrians and pedestrians
- Crosswalk at Danville Blvd.
- Roadway is straight with good visibility in most areas
- Potential for parking area at end of paved road

Constraints

- Several private ownerships are located between end of public road and Las Trampas
- Public road right-of-way of Hemme Avenue from Danville Blvd ends at Via Copla
- Some areas are narrow and could require trail construction
- Sidewalks are limited to Rancho Romero School site
- Much traffic already generated by two schools, daycare and Westminster Retreat
- No potential for service or bicycle access
- Route passes more than ten homes on each side (including landscaping in public right-of-way, driveways)

Camille Avenue

Opportunities

- Public right-of-way on Camille Ave. between Danville Blvd. to Camille Lane (west)
- Most direct and shortest route to Las Trampas from Hap Magee Park
- Public street is developed from Danville Blvd. to Camille Lane (west) (all same width)
- Roadway is straight with good visibility
- Potential crosswalk at Danville Blvd. in accordance with Magee Park Plan
- Hap Magee Park Master Plan includes a trail on County owned property on Camille Lane (east) between Danville Blvd. and San Ramon Creek
- Several existing or old fire roads could provide service and bicycle access
- Existing sidewalk on south side of Camille Avenue
- Private property at end of Camille Avenue is primarily undeveloped open space
- At least one trail west of Camille Avenue leading into the park has been historically used as an unofficial access into the park by equestrians and pedestrians
- West of paved road there are several routes with good gradient and topography into the Park
- Has potential for public trail and staging uses as conditions of subdivision if developed in future (west of Camille Avenue)
- Route passes fewer than ten homes on each side

Constraints

- Bridge must be constructed over San Ramon Creek, however bridge has been funded and will be constructed as part of Magee Park Plan
- Property between end of Camille Avenue is in private ownership
- No traffic signal at Danville Blvd. and Las Trampas Rd.

Del Amigo Road/Kuss Road

Opportunities

- Good staging opportunity on flat area at end of road at edge of Las Trampas next to Eugene O'Neill National Historic Site
- Sidewalks for only Del Amigo portion of route

Constraints

- Upper Kuss Road is very narrow, steep and winding and cannot accommodate two-way traffic or pedestrian or equestrian or bicycle traffic

- Upper Kuss Road is privately owned and maintained by many land owners
- On-road route has several jogs making it somewhat more difficult for trail users to understand
- Long, indirect route from Magee Park
- No crosswalks at Danville Blvd.
- Route passes more than ten homes on each side (including landscaping in public right-of-way, driveways)

Del Amigo Road/Clipper Hill Road

Opportunities

- Potential parking/staging opportunity at end of road on edge of Las Trampas (if new road provided)
- Sidewalks for only Del Amigo portion of route

Constraints

- Clipper Hill is very narrow, steep and winding and cannot accommodate two-way traffic or a pedestrian or equestrian trail.
- Clipper Hill is privately owned by many separate owners with no public access easement
- Expensive road construction needed between Clipper Hill and potential staging area
- Del Amigo and Kuss Road have several jogs making route more difficult for trail users to understand
- Long, indirect route from Magee Park
- Route passes more than ten homes on each side (including landscaping in public right-of-way, driveways)

Del Amigo Trail - Del Amigo Road/Starview Road

Opportunities

- Existing trailhead at end of paved road
- On-street parking available on Starview at western end of trail
- Level with sidewalks for only Del Amigo portion of route
- Total route within public right-of-way

Constraints

- Least direct and longest route from Magee Park to Las Trampas in study area
- Very steep trail ascent within Las Trampas easement for Del Amigo Trail
- No parking/staging opportunities at park at end of road

- On-road route has several jogs
- Starview Drive (public roadway) is very steep and has no turnaround
- No potential for bicycle trail access
- No crosswalk at Danville Blvd.
- Route passes more than ten homes on each side (including landscaping in public right-of way, driveways)

Drainage Areas

Opportunities

- Off-road situation (not next to street) with riparian vegetation and seasonal creek setting

Constraints

- No publicly owned easement along the drainage areas for public access. Trail easement would have to be acquired from individual owners
- Drainages are part of residential backyards. Many of which would be disturbed
- Contra Costa Flood Control does not maintain the creeks, does not have a recorded easement for maintenance purposes
- Drainage channels dead end into residential units and do not go through to Las Trampas
- Area would not be logical or appropriate for a vehicle trail to staging area
- Back yard structures (fences, landscaping, pools, etc.) would have to be relocated to provide room for trail
- Trail alignment would have to have setback from the Creek to allow for possible slope failure
- Would require railings next to steep banks
- Rutherford Creek requires some stabilization (riprap, etc.) but is a low priority project for Contra Costa Flood Control
- No crosswalk at Danville Blvd.

Los Alamos Court, Corwin Drive, Wayne Avenue, Rutherford Drive, Hartford Road, Cordell Drive, Harper Lane, and other shorter streets

Constraints

- These streets are short in length and dead end into residential units and are not worthy of further consideration

APPENDIX G TABLE
Trail Criteria Matrix
Most Feasible Routes

KEY



Greatest Trail Potential



Moderate Trail Potential



Least Trail Potential

Is direct route/easy to understand/(minimal number of jogs and turns)							
Minimizes number of homes it passes							
On-road route has good width/gradient and visibility for vehicles and trail users							
Potential staging or parking possible							
Route from west end of public roadway has potential suitable gradient into park for service vehicles *							
Suitability of East-West street crossing at Danville Blvd.	#	#		**	#	#	#
Minimizes acquisitions from private property owners							
Adequate Right-of-Way for separated trail on sidewalk/shoulder of roadway							

* All routes encounter steep ascents to park trails for hiking and riding.

** Crosswalk established in Danville's MaGee Park environmental documents

Access to these trailheads will be from Iron Horse Trail with crossing of Danville Blvd. at either Camille Lane or Hemme Avenue

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